

CALIFORNIA HIGH-SPEED TRAIN

Project Environmental Impact Report/Environmental Impact Statement

Palmdale to Los Angeles Supplemental Alternatives Analysis Report Volume 2

April 2012



CALIFORNIA
High-Speed Rail Authority



U.S. Department of Transportation
Federal Railroad Administration

APPENDIX A - DETAILED EVALUATION TABLES

Table A-1 Santa Clarita Subsection – Sand Canyon Alternatives – Evaluation Matrix

Measurement Criteria	Sand Canyon Preliminary AA Option (Carried Forward)	Sand Canyon River Option (Withdrawn) (contributing reasons for withdrawal highlighted)	Sand Canyon Metrolink Option (Carried forward)
Journey time (Sylmar to Lang)	4 minutes 30 seconds	4 minutes 30 seconds	4 minutes 45 seconds
	15.7 miles	15.8 miles	15.7 miles
Tunnel Length	7 miles	7.1 miles	7 miles
Operating Costs	Lower	Higher due to trench and flood control.	Higher due to trench
Capital Costs	Lower	Higher due to trench, flood control and more viaduct	Higher due to trench
Constructability	Simpler construction	More complex due to need to construct trench leading to tunnel portal in the flood plain of the river, requiring extensive flood control precautions and environmental mitigations during construction, as well as permanent flood control and other works to maintain channel flow capacity	Simpler construction
Disruption to Existing Railroad	Metrolink tracks need to be diverted to cross over HST	Local Metrolink diversions	Local Metrolink diversions
Disruption to and Relocation of Utilities	No known difference	No known difference	No known difference
Residential Displacements	23 residences on impacted parcels (Road Runner, Oak Springs and Whitewater canyon)	25 residences on impacted parcels (La Vada Ave & Lost Canyon Rd)	13 residences on impacted parcels (Road Runner, Oak Springs and Whitewater canyon)
Business Displacements	South edge of planned Vista Canyon Development impacted	East end of planned Vista Canyon Development impacted	No impact to planned Vista Canyon Development
Properties with Access Affected		La Vada Ave (cul-de-sac) included as impacted parcels above	
Highway Grade Separations and Closures	Oak Spring Canyon Road grade separated	La Vada Ave closed	Oak Spring Canyon Road grade separated
Biological/Aquatic Resources	<u>Aquatic Resources</u> Direct Impacts - Streams/Creeks/Canyons –1600 linear feet ; Lakes/Ponds/Swamps/Reservoirs – 3 acres Indirect Impacts - Streams/Creeks/Canyons –8000 linear feet ; Lakes/Ponds/Swamps/Reservoirs – 20 acres <u>Biological Resources</u> Direct Impacts – Arroyo Toad – 6.6 acres; Gnatcatcher – 0.8 acres Indirect Impacts – Arroyo Toad – 31 acres; Gnatcatcher – 4 acres	<u>Aquatic Resources</u> Direct Impacts - Streams/Creeks/Canyons –5,500 linear feet ; Lakes/Ponds/Swamps/Reservoirs – 26 acres Indirect Impacts - Streams/Creeks/Canyons –19,500 linear feet ; Lakes/Ponds/Swamps/Reservoirs – 116 acres <u>Biological Resources</u> Direct Impacts – Arroyo Toad – 6 acres Indirect Impacts – Arroyo Toad – 25 acres	<u>Aquatic Resources</u> Direct Impacts - Streams/Creeks/Canyons –1600 linear feet ; Lakes/Ponds/Swamps/Reservoirs – 4 acres Indirect Impacts - Streams/Creeks/Canyons –7400 linear feet ; Lakes/Ponds/Swamps/Reservoirs – 24 acres <u>Biological Resources</u> Direct Impacts – Arroyo Toad – 6.8 acres; Gnatcatcher – 1 acre Indirect Impacts – Arroyo Toad – 31 acres; Gnatcatcher – 5 acres

Measurement Criteria	Sand Canyon Preliminary AA Option (Carried Forward)	Sand Canyon River Option (Withdrawn) (contributing reasons for withdrawal highlighted)	Sand Canyon Metrolink Option (Carried forward)
Cultural Resources	17 State Registered Archeological Sites within ½ mile of alternative alignment 11 State Registered Architectural Historic Sites within ½ mile of alternative alignment Lang Station Storage Historical site – directly impacted	16 State Registered Archeological Sites within ½ mile of alternative alignment 10 State Registered Architectural Historic Sites within ½ mile of alternative alignment Lang Station Storage Historical site – at 627 ft	17 State Registered Archeological Sites within ½ mile of alternative alignment 11 State Registered Architectural Historic Sites within ½ mile of alternative alignment Lang Station Storage Historical site – directly impacted
Parklands	<u>Surface Alignment Impacts:</u> 0.31 acres of parklands within 100 feet of the alignment (Angeles National Forest) 397 acres of parklands within ½ mile of the alignment (Angeles National Forest – 386 acres; Canyon Country Park – 11 acres) <u>Alignment in Tunnel (Potential for vibration impacts under Section 4(f)):</u> 19 acres of parklands within 100 feet (Whitney Canyon Park – 19 acres)	<u>Surface Alignment Impacts:</u> 0 acres of parklands within 100 feet of the alignment 109 acres of parklands within ½ mile of the alignment (Angeles National Forest – 96 acres; Canyon Country Park – 14 acres) <u>Alignment in Tunnel (Potential for vibration impacts under Section 4(f)):</u> 19 acres of parklands within 100 feet (Whitney Canyon Park)	<u>Surface Alignment Impacts:</u> 2 acres of parklands within 100 feet of the alignment (Angeles National Forest) 369 acres of parklands within ½ mile of the alignment (Angeles National Forest) <u>Alignment in Tunnel (Potential for vibration impacts under Section 4(f)):</u> 20 acres of parklands within 100 feet (Whitney Canyon Park)
Agricultural Lands	10 acres of agricultural land within 100 feet of the alignment 102 acres of agricultural land within ½ mile of the alignment	0.08 acres of agricultural land within 100 feet of the alignment 69 acres of agricultural land within ½ mile of the alignment	12 acres of agricultural land within 100 feet of the alignment 101 acres of agricultural land within ½ mile of the alignment
Noise and Vibration (distances from centerline of alignment to nearest point on parcel unless noted)	1775 residences within ½ mile of surface alignment Church of the Canyons – displaced Sulphur Springs Community Elementary School – at 370 ft Pine Crest Schools – at 360 ft	1991 residences within ½ mile of surface alignment Church of the Canyons – at 1340 ft Sulphur Springs Community Elementary School – at 130 ft Pine Crest Schools – at 490 ft	1530 residences within ½ mile of surface alignment Church of the Canyons – parcel directly impacted, 195 ft to building Sulphur Springs Community Elementary School – at 330 ft Pine Crest Schools – at 230 ft
Change in Visual and Scenic Resources <u>Visual Character:</u> The most potential for impacts to visual character is where the alignment has a high vertical profile such as viaduct. <u>Views and Vistas:</u> The presence of viaducts in the vicinity of areas with views and vistas would have the potential for adverse impacts.	<u>Visual Character:</u> Approximately 19% of this alignment's profile is on a viaduct. <u>Views and Vistas:</u> Approximately 1.9 miles of viaduct located within the viewshed of residential and other sensitive uses	<u>Visual Character:</u> Approximately 24% of this alignment's vertical profile is on a viaduct. <u>Views and Vistas:</u> Approximately 4.1 miles of viaduct located within the viewshed of residential and other sensitive uses	<u>Visual Character:</u> Approximately 21% of this alignment's vertical profile is on a viaduct. <u>Views and Vistas:</u> Approximately 2.2 miles of viaduct that would be located within the viewshed of residential and other sensitive uses.
Geological and Soil Constraints	Lesser impact	Poorer tunneling conditions under Santa Clara River floodplain	Lesser impact
Avoidance of Hazardous Materials	No known difference	No known difference	No known difference

Measurement Criteria	Sand Canyon Preliminary AA Option (Carried Forward)	Sand Canyon River Option (Withdrawn) (contributing reasons for withdrawal highlighted)	Sand Canyon Metrolink Option (Carried forward)
Agency and Public Input	Sand Canyon Homeowners Association and stakeholders are concerned about the potential for noise/vibration, visual impacts and property acquisitions. The Sulphur Springs School Board would prefer that this alignment not be carried forward.	The Sulphur Springs School Board would prefer that this alignment not be carried forward.	Sand Canyon Homeowners Association and stakeholders are concerned about the potential for noise/vibration, visual impacts and property acquisitions. The Sulphur Springs School Board would prefer that this alignment not be carried forward.

Table A-2 Palmdale subsection – Acton Alternatives – Evaluation Matrix

Measurement Criteria	Acton SR 14 East Option (Carried Forward)	Acton SR 14 West Option (Carried Forward)	Acton SR 14 E/W Hybrid Option (Carried Forward)
Journey time (Lang to Palmdale)	7 minutes 40 seconds	6 minutes 59 seconds	8 minutes 0 seconds
	23.5 miles	20.6 miles	22.9 miles
Tunnel Length	Longest – 5.9 miles Total – 12.3 miles	Longest – 5.2 miles Total – 10 miles	Longest – 6.7 miles Total – 12.3 miles
Operating Costs	Baseline	Lower than SR 14 East Option due to less tunnel and shorter route	Similar to SR 14 East Option
Capital Costs	1.0	0.95	1.0
Constructability	Sierra Highway and Metrolink diversion at Palmdale Lake	Complex structures: skew SR 14 viaduct in Palmdale Less tunneling	Sierra Highway and Metrolink diversion at Palmdale Lake
Disruption to Existing Railroad	Shares UPRR ROW in Palmdale Metrolink diversion at Palmdale Lake	Least impact	Similar to SR 14 East Option
Disruption to and Relocation of Utilities	No known difference	No known difference	No known difference
Residential Displacements	12 displacements (Acton/Agua Dulce) 13 displacements (Palmdale)	13 displacements (Acton/Agua Dulce) 1 displacements (Palmdale)	13 displacements (Acton/Agua Dulce) 13 displacements (Palmdale)
Business Displacement	8 commercial parcels impacted 8 industrial parcels impacted	1 commercial parcel impacted 6 industrial parcels impacted	8 commercial parcels impacted 8 industrial parcels impacted
Properties with Access Affected	2	1	2
Highway Grade Separations and Closures	9 grade separations, 3 closures	9 grade separations, 3 closures	9 grade separations, 3 closures
Biological/Aquatic Resources	Direct Impacts - Streams/Creeks/Canyons –6,800 linear feet ; Lakes/Ponds/Swamps/Reservoirs – 0.3 acres; Wetlands – 0.5 acres Indirect Impacts - Streams/Creeks/Canyons – 20,500 linear feet ; Lakes/Ponds/Swamps/Reservoirs – 2.9 acres; Wetlands – 4.3 acres	Direct Impacts - Streams/Creeks/Canyons –2800 linear feet ; Lakes/Ponds/Swamps/Reservoirs – 0 acres; Wetlands – 0.14 acres Indirect Impacts - Streams/Creeks/Canyons –15,900 linear feet ; Lakes/Ponds/Swamps/Reservoirs – 0 acres; Wetlands – 0.77 acres	Direct Impacts - Streams/Creeks/Canyons –5400 linear feet ; Lakes/Ponds/Swamps/Reservoirs – 0.11 acres; Wetlands – 0.64 acres Indirect Impacts - Streams/Creeks/Canyons –22,600 linear feet ; Lakes/Ponds/Swamps/Reservoirs – 2.4 acres; Wetlands – 3.8 acres

Measurement Criteria	Acton SR 14 East Option (Carried Forward)	Acton SR 14 West Option (Carried Forward)	Acton SR 14 E/W Hybrid Option (Carried Forward)
Cultural Resources	124 State Registered Archeological Sites within ½ mile of alternative alignment 83 State Registered Architectural Historic Sites within ½ mile of the alignment	43 State Registered Archeological Sites within ½ mile of alternative alignment 29 State Registered Architectural Historic Sites within ½ mile of the alignment	85 State Registered Archeological Sites within ½ mile of alternative alignment 56 State Registered Architectural Historic Sites within ½ mile of the alignment
Parklands	<u>Surface Alignment Impacts:</u> 6 acres of parklands within 100 feet of the alignment (Metrolink Station Greenbelt) 343 acres of parklands within ½ mile of the alignment (Vasquez Rocks County Park – 268 acres; Metrolink Station Greenbelt – 22 acres; Desert Sand Park – 22 acres; Palmdale Fin and Feather Club – 31 acres) <u>Alignment in Tunnel (Potential for vibration impacts under Section 4(f)):</u> 0 acres of parklands within 100 feet	<u>Surface Alignment Impacts:</u> 1 acre of parklands within 100 feet of the alignment (Pelona Vista Park) 315 acres of parklands within ½ mile of the alignment (Vasquez Rocks County Park – 252 acres; Desert Sand Park – 27 acres; Palmdale Fin and Feather Club – 37 acres) <u>Alignment in Tunnel (Potential for vibration impacts under Section 4(f)):</u> 0 acres of parklands within 100 feet	<u>Surface Alignment Impacts:</u> 7 acres of parklands within 100 feet of the alignment (Metrolink Station Greenbelt) 326 acres of parklands within ½ mile of the alignment (Vasquez Rocks County Park – 252 acres; Metrolink Station Greenbelt – 22 acres; Desert Sand Park – 22 acres; Palmdale Fin and Feather Club – 31 acres) <u>Alignment in Tunnel (Potential for vibration impacts under Section 4(f)):</u> 0 acres of parklands within 100 feet
Agricultural Lands	0 acres of agricultural land within 100 feet of the alignment 47 acres of agricultural land within ½ mile of the alignment	0.08 acres of agricultural land within 100 feet of the alignment 92 acres of agricultural land within ½ mile of the alignment	0 cres of agricultural land within 100 feet of the alignment 68 acres of agricultural land within ½ mile of the alignment
Noise and Vibration (distancias from centerline of alignment to nearest point on parcel unless noted)	361 residential within ½ mile (Acton/Agua Dulce) Vasquez High School - 10 ft to parcel, 600 ft to buildings High Desert School - 180 ft to parcel, 750 ft to buildings Library – at 1500 ft 2373 residential within ½ mile (Palmdale) Palmdale City Hall – at 300 ft Palmdale Youth Library – at 310 ft Palmdale Main Library – at 450 ft Rex Parris High School – at 170 ft Palmdale Learning Plaza – no impact Super 8 Motel – no impact	123 residential within ½ mile (Acton/Agua Dulce) Vasquez High School - at 2580 ft High Desert School – no impact Library – no impact 2412 residential within ½ mile (Palmdale) Palmdale City Hall – no impact Palmdale Youth Library – no impact Palmdale Main Library – no impact Rex Parris High School – no impact Palmdale Learning Plaza – at 60 ft Super 8 Motel – at 160 ft	131 residential within ½ mile (Acton/Agua Dulce) Vasquez High School - at 2580 ft High Desert School – no impact Library – no impact 2373 residential within ½ mile (Palmdale) Palmdale City Hall – at 300 ft Palmdale Youth Library – at 310 ft Palmdale Main Library – at 450 ft Rex Parris High School – at 170 ft Palmdale Learning Plaza – no impact Super 8 Motel – no impact

Measurement Criteria	Acton SR 14 East Option (Carried Forward)	Acton SR 14 West Option (Carried Forward)	Acton SR 14 E/W Hybrid Option (Carried Forward)
Change in Visual and Scenic Resources <u>Visual Character:</u> The most potential for impacts to visual character is where the alignment has a high vertical profile such as viaduct. <u>Views and Vistas:</u> The presence of viaducts in the vicinity of areas with views and vistas would have the potential for adverse impacts.	Greater impact in Acton since above ground for longer distance. <u>Visual Character:</u> Approximately 4.6% of this alignment's profile is on viaduct. <u>Views and Vistas:</u> Approximately 0.4 miles of viaduct located within the viewshed of residential and other sensitive uses.	Less impact in Acton <u>Visual Character:</u> Approximately 4.5% of this alignment's vertical profile is on viaduct. <u>Views and Vistas:</u> Approximately 0.3 miles of viaduct located within the viewshed of residential and other sensitive uses.	Less impact in Acton <u>Visual Character:</u> Approximately 2.2% of this alignment's vertical profile is on viaduct. <u>Views and Vistas:</u> Approximately 0.3 miles of viaduct located within the viewshed of residential and other sensitive uses.
Geological and Soil Constraints	No difference	No difference	No difference
Avoidance of Hazardous Materials	No difference	No difference	No difference
Agency and Public Input	Acton and Agua Dulce (including the Town Councils, School Board and School District) do not support any alternatives given the potential for impact to schools and residential properties including noise/vibration and visual blight. The city of Palmdale prefers SR 14 East and SR 14 E/W Hybrid options that have the station at the Palmdale Transportation Center.	Acton and Agua Dulce (including the Town Councils, School Board and School District) do not support any alternatives given the potential for impact to schools and residential properties including noise/vibration and visual blight.	Acton and Agua Dulce (including the Town Councils, School Board and School District) do not support any alternatives given the potential for impact to schools and residential properties including noise/vibration and visual blight. The city of Palmdale prefers SR 14 East and SR 14 E/W Hybrid options that have the station at the Palmdale Transportation Center.

APPENDIX B - OUTREACH MEETINGS

Briefings

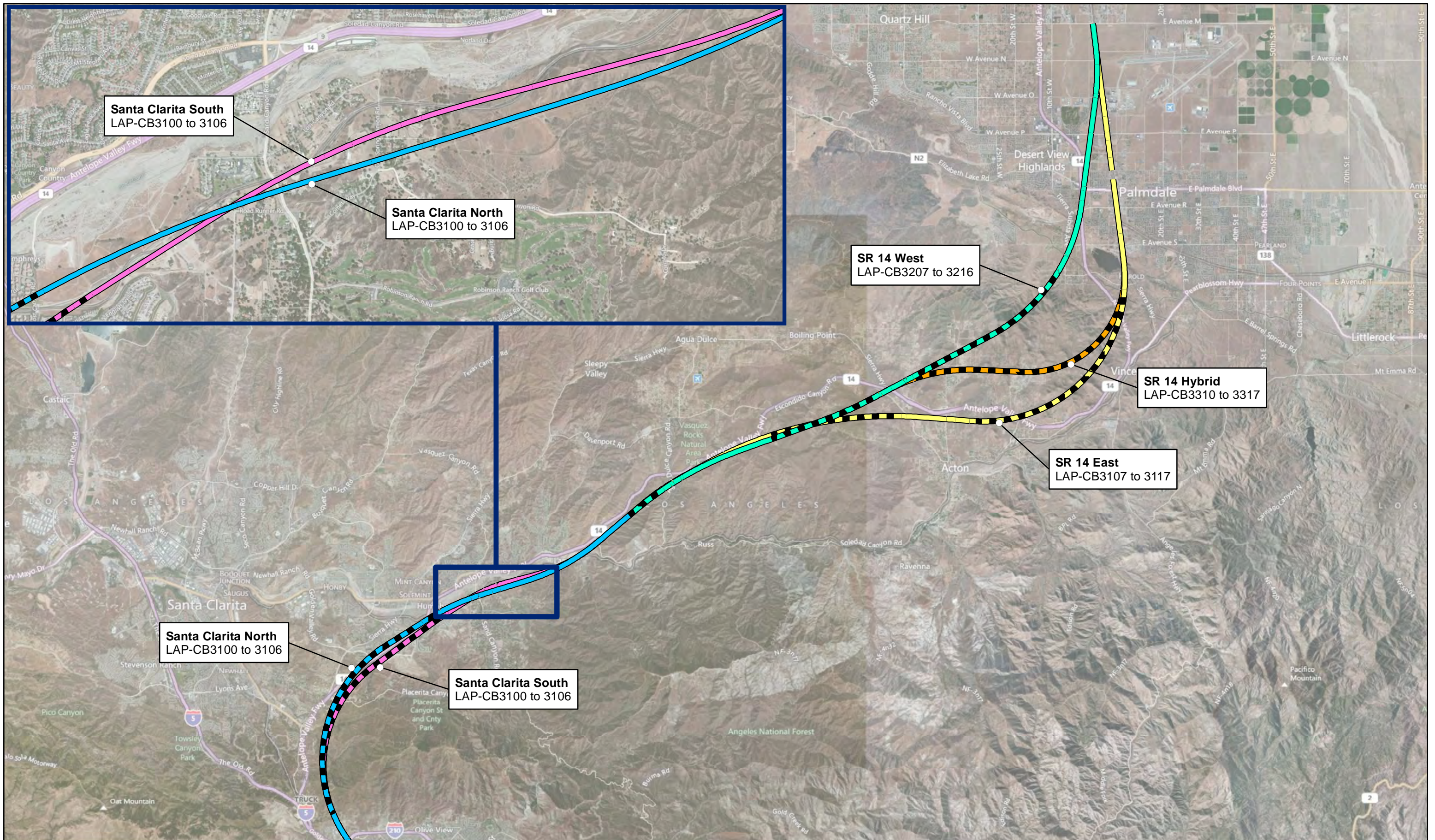
Corridor Cities		
City of Santa Clarita	March 23, 2011	Planned for May 2, 2011 workshop.
Sulphur Springs School District (Dr. Robert Nolet, Superintendent)	March 29, 2011	Reviewed Supplemental AA presentation.
West Ranch Town Council	April 6, 2011	Provided project overview.
Acton/Agua Dulce Working Group	April 25, 2011	Discussed alignment alternatives and engineering criteria.
City of Palmdale	April 28, 2011	Addressed Lancaster and Palmdale alignments.
NCTC	May 11, 2011	Provided project overview.
Sulphur Springs School Board	May 25, 2011	Provided project overview and discussed alternative alignments.
Acton/Agua Dulce Working Group	June 8, 2011	Reviewed alignment alternatives suggested by community members.
Mayor Jim Ledford	July 7, 2011	Provided project overview.
City of Palmdale	July 13, 2011	Meeting with CHSRA CEO Roelof Van Ark.
City of Palmdale	October 11, 2011	Discussed alignment alternatives, station options, and engineering criteria.
Acton/Agua Dulce Working Group	October 24, 2011	Discussed alignment alternatives and engineering criteria.
City of Palmdale	January 18, 2012	Reviewed Palmdale to Sylmar SAA.
City of Santa Clarita	January 27, 2012	Reviewed Palmdale to Sylmar SAA.
Santa Clarita Valley Working Group	February 13, 2012	Reviewed Palmdale to Sylmar SAA.

Acton/Agua Dulce Working Group	February 28, 2012	Reviewed Palmdale to Sylmar SAA.
Local, State and Federal Agency Briefings		
Resource Agencies	February 23, 2011	Discussed Sylmar to Palmdale alignment.
Resource Agencies	February 23, 2011	Discussed Sylmar to Palmdale alignment.
Environmental Agencies and Organizations (National Resources Defense Council, Friends of the Los Angeles River, California State Parks Department, California State Parks Foundation, and LA-San Gabriel River Watershed Council)	February 24, 2011	Provided project overview.
Metro	February 28, 2011	Monthly coordination call to discuss upcoming events in southern California.
Metro	April 12, 2011	Monthly coordination call to discuss upcoming events in southern California.
Metro	May 10, 2011	Monthly coordination call to discuss upcoming events in southern California.
Metro	June 14, 2011	Monthly coordination call to discuss upcoming events in southern California.
Metro	July 12, 2011	Monthly coordination call to discuss upcoming events in southern California.
Metro	October 24, 2011	Monthly coordination call to discuss upcoming events in southern California.
Metro	November 14, 2011	Monthly coordination call to discuss upcoming events in southern California.
Metro	December 15, 2011	Reviewed Palmdale to Sylmar SAA.

Metro	December 19, 2011	Monthly coordination call to discussion upcoming events in southern California.
Metro	February 14, 2012	Monthly coordination call to discuss upcoming events in southern California.
Resource Agencies	April 3, 2012	Reviewed Palmdale to Sylmar SAA.
Community		
Residents of Road Runner (Sand Canyon)	March 30, 2011	Provided project overview to approximately 13 stakeholders.
Sand Canyon Homeowners Association	April 13, 2011	Reviewed alignment alternatives with approximately 8 stakeholders.
Santa Clarita Rotary Club	*April 11, 2012	*Provide project overview.
Business Outreach		
Defense contractors at Air Force Plant 42	April 28, 2011	Provided update on Lancaster and Palmdale alignment alternatives.
Vulcan Materials Company	June 15, 2011	Discussed alignment alternatives, maintenance facility possibilities, grade crossings and station options.
Disney	January 24, 2012	Reviewed Palmdale to Sylmar SAA.
Disney	March 29, 2012	Reviewed Palmdale to Sylmar SAA.
Vista Canyon	April 6, 2012	Reviewed Palmdale to Sylmar SAA.
Elected Officials and Staff		
Supervisor Antonovich staff and Resource Agencies	February 3, 2011	Reviewed Antelope Valley alignment alternatives.

Supervisor Antonovich staff	March 23, 2011	Planned for May 2, 2011 workshop.
Supervisor Antonovich staff	April 27, 2011	Discussed alignment alternatives.
State Senator Strickland staff	August 4, 2011	Provided project update.
Supervisor Antonovich staff	February 3, 2012	Reviewed Palmdale to Sylmar SAA.
Supervisor Yaroslavsky staff	March 9, 2012	Reviewed Palmdale to Sylmar SAA.
Assemblyman Gorell	*April 12, 2012	*Review Palmdale to Sylmar SAA.
Congressman Sherman staff	*April 18, 2012	*Review Palmdale to Sylmar SAA.
Activity Centers		
National Train Day	May 7, 2011	Engaged approximately 500 attendees.
Antelope Valley Green Expo	June 11-12, 2011	Engaged approximately 100 attendees.
Alpine Recreation Center	June 29, 2011	Engaged approximately 15 attendees.
Mobility 21	September 6, 2011	Engaged approximately 75 attendees.
Santa Clarita Valley Chamber of Commerce Expo	September 17-18, 2011	Engaged approximately 75 attendees.
Santa Clarita Street Fair	December 17-18, 2011	Engaged approximately 110 attendees.
Community Open Houses		
Santa Clarita	May 2, 2011	Reviewed alignment alternatives and station location options with approximately 60 stakeholders.
Santa Clarita (follow-up workshop)	May 23, 2011	Reviewed alignment alternatives and station location options with approximately 70 stakeholders.
Bakersfield Open House (B-P, P-LA sections)	July 14, 2011	Reviewed alignment alternatives and station location options with approximately 140 stakeholders.

APPENDIX C - PLAN PROFILE DRAWINGS – PALMDALE TO SYLMAR



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SHT DWG No. TITLE

GENERAL SHEETS

1	LAP-CB0000	COVER SHEET
2	LAP-CB0101	DRAWING INDEX
2	LAP-CB0102	UNCHANGED - SEE PRELIMINARY AA

LAUS TO SR-2 ALTERNATIVE "LAPT1"

1	LAP-CB1110	UNCHANGED - SEE SUPPLEMENTAL AA MARCH 2011
2	LAP-CB1111	
3	LAP-CB1112	
4	LAP-CB1113	
5	LAP-CB1114	

LAUS TO SR-2 ALTERNATIVE "LAPT2"

1	LAP-CB1210	UNCHANGED - SEE PRELIMINARY AA
2	LAP-CB1211	
3	LAP-CB1212	
4	LAP-CB1213	
5	LAP-CB1214	

LAUS TO SR-2 ALTERNATIVE "LAPT3"

1	LAP-CB1310	UNCHANGED - SEE SUPPLEMENTAL AA MARCH 2011
2	LAP-CB1311	
3	LAP-CB1312	
4	LAP-CB1313	
5	LAP-CB1314	

LAUS TO SR-2 ALTERNATIVE "LAP1C"

1	LAP-CB1610	UNCHANGED - SEE SUPPLEMENTAL AA MARCH 2011
2	LAP-CB1611	
3	LAP-CB1612	
4	LAP-CB1613	
5	LAP-CB1614	

SHT DWG No. TITLE

SR-2 TO SYLMAR ALTERNATIVE "ESS"

1	LAP-CB2201	UNCHANGED - SEE PRELIMINARY AA
2	LAP-CB2202	
3	LAP-CB2203	
4	LAP-CB2204	
5	LAP-CB2205	
6	LAP-CB2206	
7	LAP-CB2207	
8	LAP-CB2208	
9	LAP-CB2209	
10	LAP-CB2210	
11	LAP-CB2211	
12	LAP-CB2212	
13	LAP-CB2213	
14	LAP-CB2214	
15	LAP-CB2215	
16	LAP-CB2216	
17	LAP-CB2217	

BURBANK BUENA VISTA STATION ALTERNATIVE "BVS"

1	LAP-CB2308	UNCHANGED - SEE PRELIMINARY AA
2	LAP-CB2309	
3	LAP-CB2310	

BRANFORD STREET STATION ALTERNATIVE "BSS"

1	LAP-CB2412	UNCHANGED - SEE PRELIMINARY AA
2	LAP-CB2413	
3	LAP-CB2414	

PACOIMA WASH STATION ALTERNATIVE "PWS"

1	LAP-CB2514	UNCHANGED - SEE PRELIMINARY AA
2	LAP-CB2515	
3	LAP-CB2516	

SYLMAR/SAN FERNANDO STATION ALTERNATIVE "SFS"

1	LAP-CB2615	UNCHANGED - SEE PRELIMINARY AA
2	LAP-CB2616	
3	LAP-CB2617	

BURBANK METROLINK STATION ALTERNATIVE "BMS"

1	LAP-CB2704	UNCHANGED - SEE SUPPLEMENTAL AA MARCH 2011
2	LAP-CB2705	
3	LAP-CB2706	
4	LAP-CB2707	

SHT DWG No. TITLE

SYLMAR TO PALMDALE ALTERNATIVE "SANTA CLARITA"

1	LAP-CB3101	PLAN AND PROFILE STA 1480+00 TO 1605+00
2	LAP-CB3102	PLAN AND PROFILE STA 1605+00 TO 1730+00
3	LAP-CB3103	PLAN AND PROFILE STA 1730+00 TO 1855+00
4	LAP-CB3104	PLAN AND PROFILE STA 1855+00 TO 1980+00
5	LAP-CB3105	PLAN AND PROFILE STA 1980+00 TO 2105+00
6	LAP-CB3106	PLAN AND PROFILE STA 2105+00 TO 2230+00

SYLMAR TO PALMDALE ALTERNATIVE "SR 14 EAST"

7	LAP-CB3107	PLAN AND PROFILE STA 2230+00 TO 2355+00
8	LAP-CB3108	PLAN AND PROFILE STA 2355+00 TO 2480+00
9	LAP-CB3109	PLAN AND PROFILE STA 2480+00 TO 2605+00
10	LAP-CB3110	PLAN AND PROFILE STA 2605+00 TO 2730+00
11	LAP-CB3111	PLAN AND PROFILE STA 2730+00 TO 2855+00
12	LAP-CB3112	PLAN AND PROFILE STA 2855+00 TO 2980+00
13	LAP-CB3113	PLAN AND PROFILE STA 2980+00 TO 3105+00
14	LAP-CB3114	PLAN AND PROFILE STA 3105+00 TO 3230+00
15	LAP-CB3115	PLAN AND PROFILE STA 3230+00 TO 3355+00
16	LAP-CB3116	PLAN AND PROFILE STA 3355+00 TO 3480+00
17	LAP-CB3117	PLAN AND PROFILE STA 3480+00 TO 3521+23

SYLMAR TO PALMDALE ALTERNATIVE "SR 14 WEST"

7	LAP-CB3207	PLAN AND PROFILE STA 2230+00 TO 2375+00
8	LAP-CB3208	PLAN AND PROFILE STA 2375+00 TO 2500+00
9	LAP-CB3209	PLAN AND PROFILE STA 2500+00 TO 2625+00
10	LAP-CB3210	PLAN AND PROFILE STA 2625+00 TO 2750+00
11	LAP-CB3211	PLAN AND PROFILE STA 2750+00 TO 2875+00
12	LAP-CB3212	PLAN AND PROFILE STA 2875+00 TO 3000+00
13	LAP-CB3213	PLAN AND PROFILE STA 3000+00 TO 3125+00
14	LAP-CB3214	PLAN AND PROFILE STA 3125+00 TO 3250+00
15	LAP-CB3215	PLAN AND PROFILE STA 3250+00 TO 3375+00
16	LAP-CB3216	PLAN AND PROFILE STA 3375+00 TO 3386+00

SYLMAR TO PALMDALE ALTERNATIVE "SR 14 HYBRID"

10	LAP-CB3310	PLAN AND PROFILE STA 2625+00 TO 2845+00
11	LAP-CB3311	PLAN AND PROFILE STA 2845+00 TO 2970+00
12	LAP-CB3312	PLAN AND PROFILE STA 2970+00 TO 3095+00
13	LAP-CB3313	PLAN AND PROFILE STA 3095+00 TO 3220+00
14	LAP-CB3314	PLAN AND PROFILE STA 3220+00 TO 3345+00
15	LAP-CB3315	PLAN AND PROFILE STA 3345+00 TO 3470+00
16	LAP-CB3316	PLAN AND PROFILE STA 3470+00 TO 3595+00
17	LAP-CB3317	PLAN AND PROFILE STA 3595+00 TO 3604+48

A	10/07/10	FC	JE	NC	UPDATED FOR SUPPLEMENTAL ALTERNATIVE ANALYSIS	
REV	DATE	BY	CHK	APP	DESCRIPTION	

DESIGNED BY B.HORNSTEIN
DRAWN BY D. ORIZA
CHECKED BY N. CARSTAIRS
IN CHARGE R. HOLMQUIST
DATE 07/02/2010

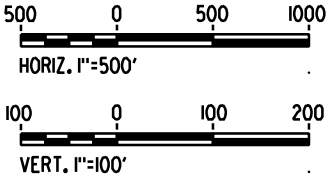
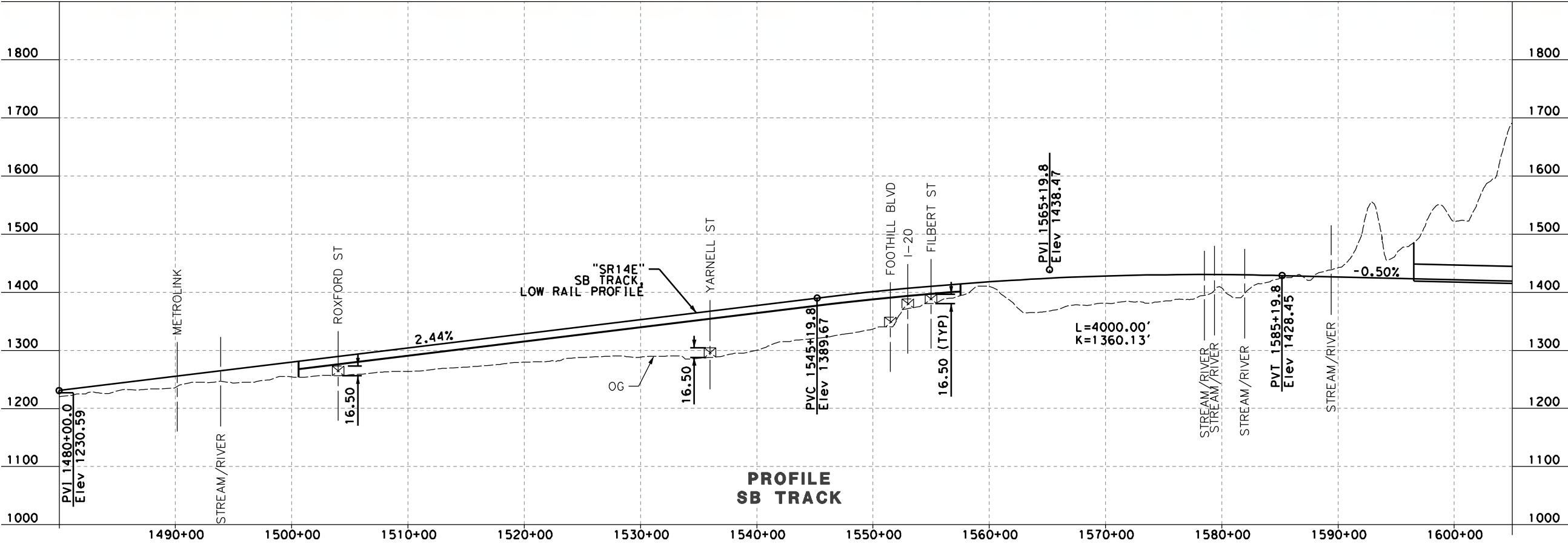
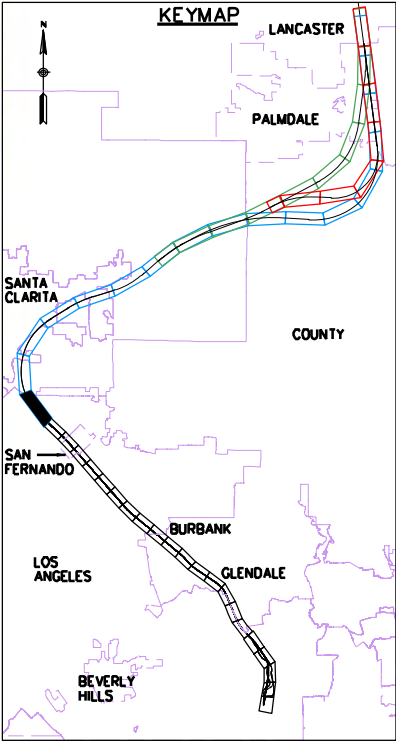
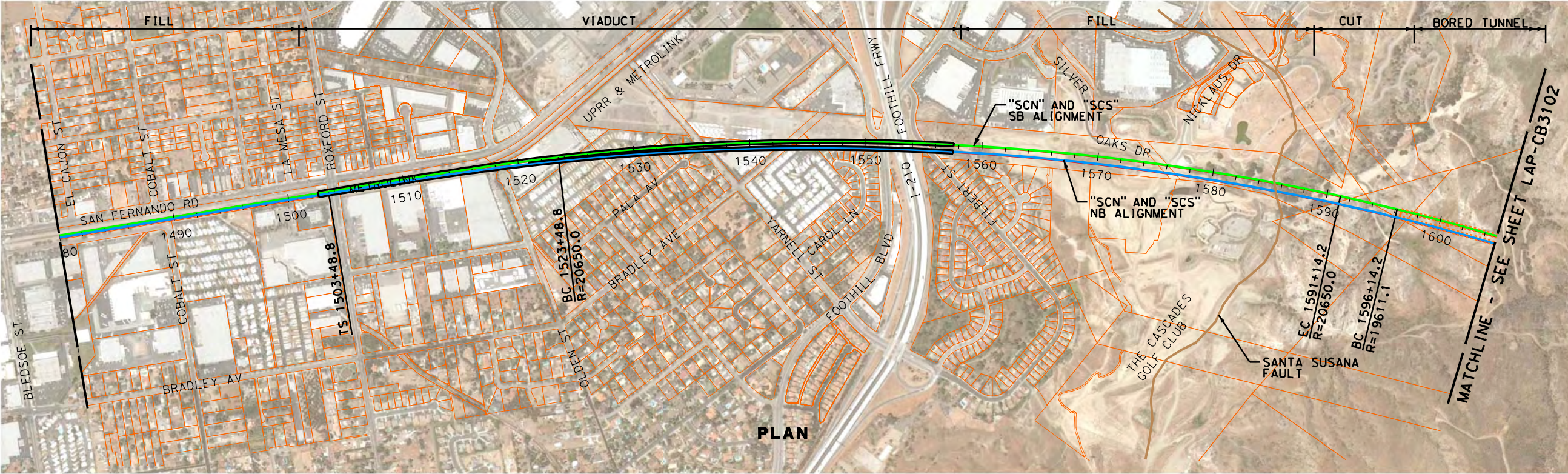
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HMM URS ARUP	Hatch Mott MacDonald, URS, & Arup A HIGH-SPEED RAIL JOINT VENTURE
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CALIFORNIA HIGH-SPEED TRAIN PROJECT PALMDALE TO LOS ANGELES SUPPLEMENTAL ALTERNATIVE ANALYSIS DRAWING INDEX

CONTRACT NO.
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SCALE NONE
SHEET NO. OF



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REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY J. ELLIS
DRAWN BY F. CAMPOS
CHECKED BY L. TRUJILLO
IN CHARGE J. HAWLEY
DATE 10-31-2011



Hatch Mott MacDonald, URS, & Arup
A HIGH-SPEED RAIL JOINT VENTURE

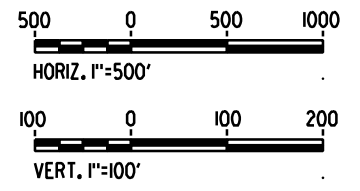
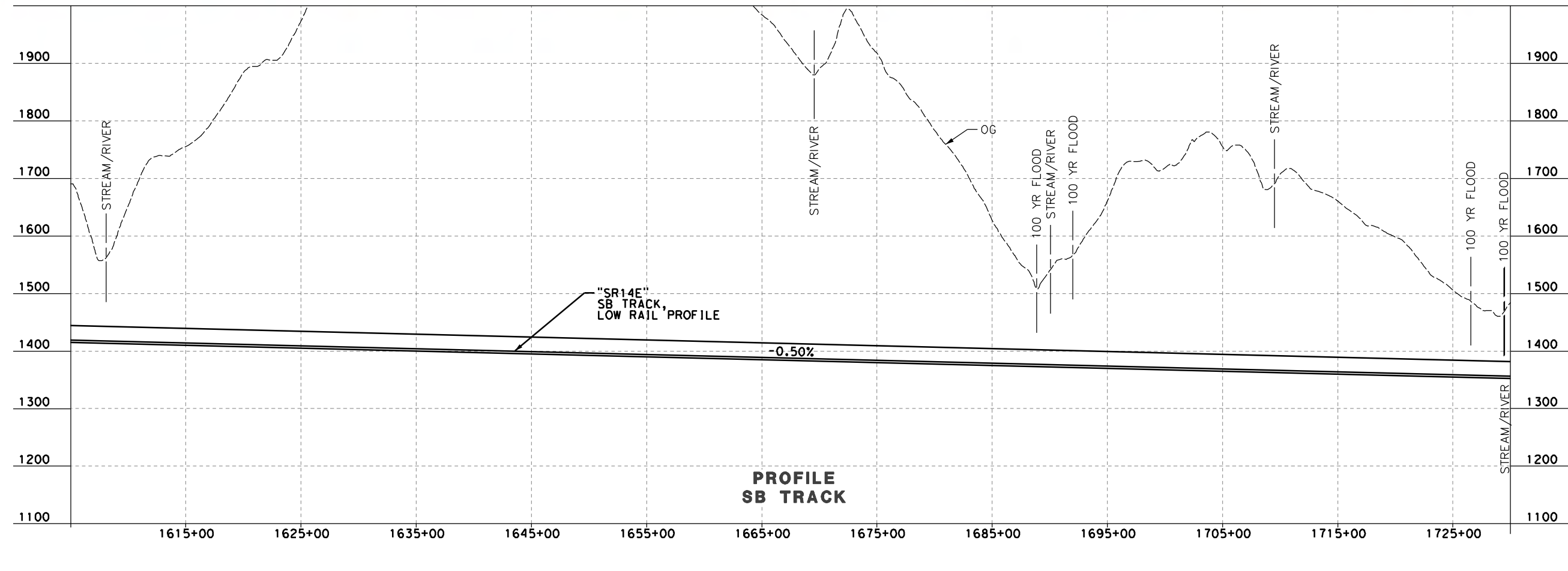
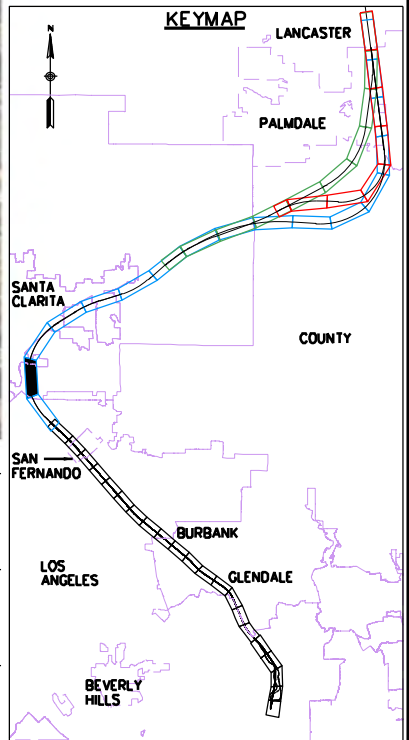
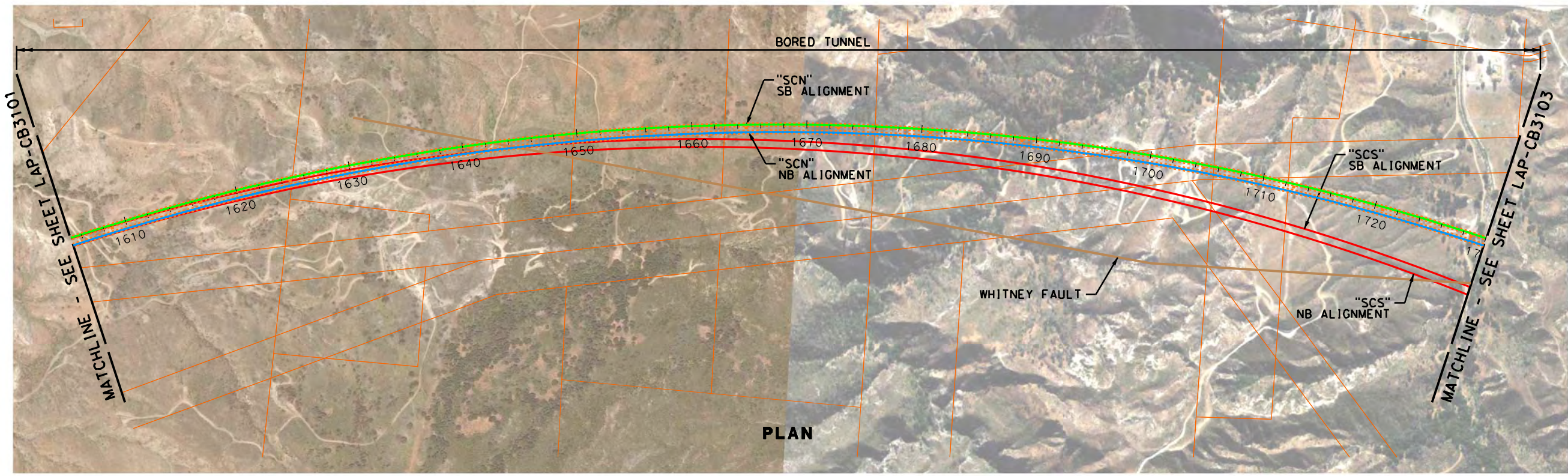


CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

CALIFORNIA HIGH-SPEED TRAIN PROJECT
PALMDALE TO LOS ANGELES
ALTERNATIVE ANALYSIS
SYLMAR TO PALMDALE-"SANTA CLARITA ALTERNATIVES"
PLAN & PROFILE
STA 1480+00 TO STA 1605+00

CONTRACT NO.
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REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
J. ELLIS
DRAWN BY
F. CAMPOS
CHECKED BY
L. TRUJILLO
IN CHARGE
J. HAWLEY
DATE
03-15-2012



Hatch Mott MacDonald, URS, & Arup
A HIGH-SPEED RAIL JOINT VENTURE

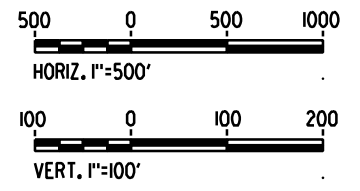
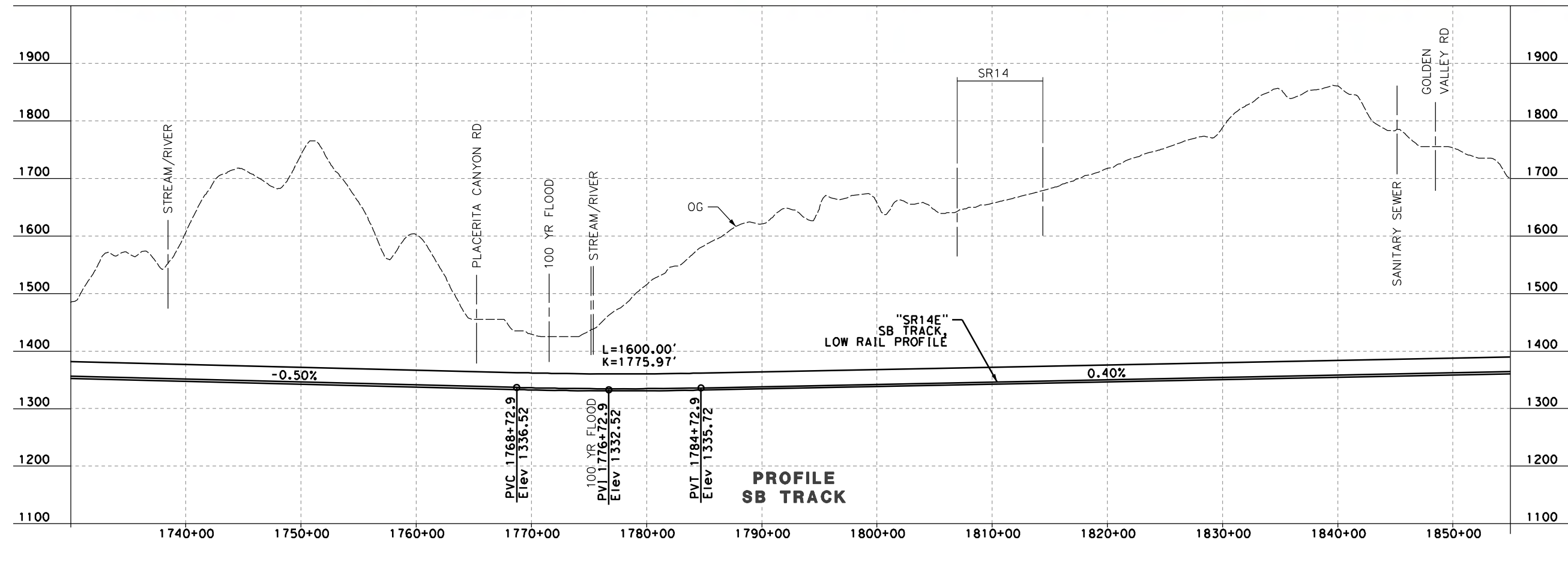
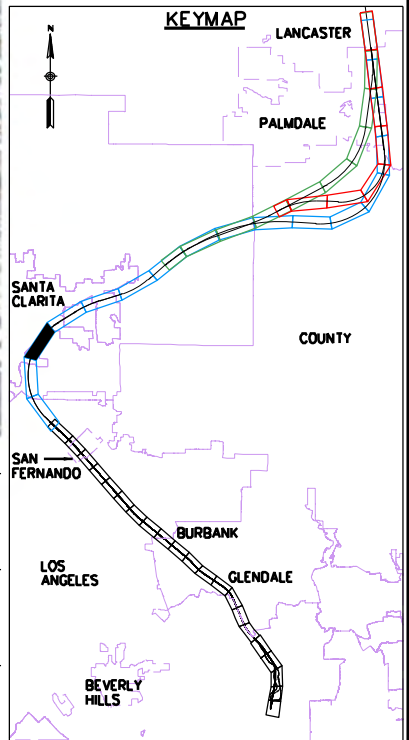
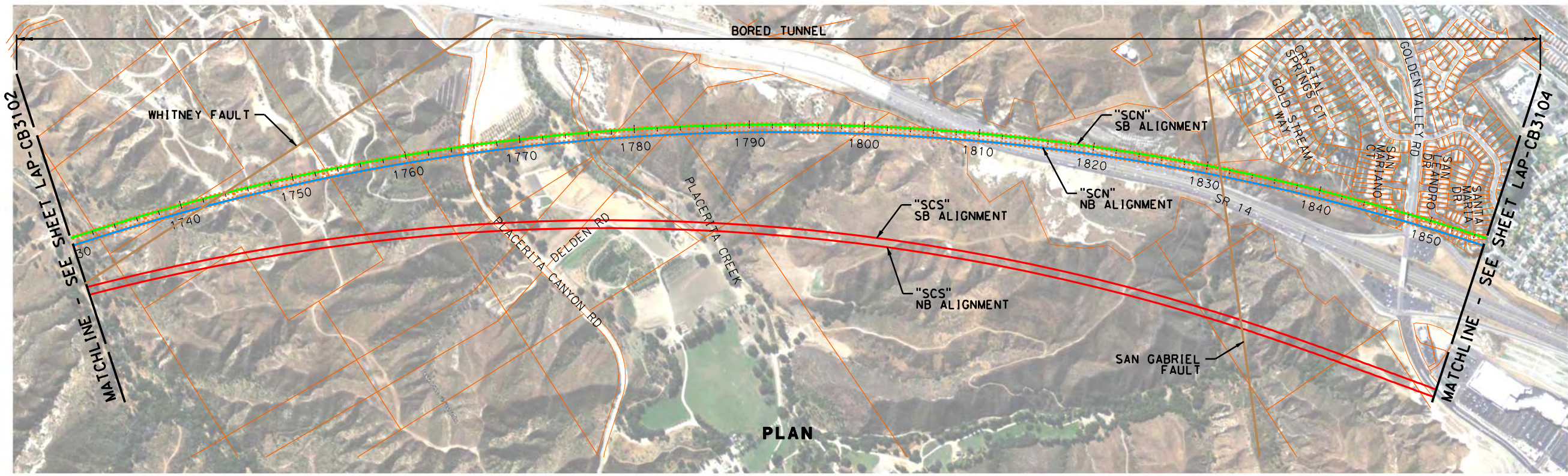


CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

CALIFORNIA HIGH-SPEED TRAIN PROJECT
PALMDALE TO LOS ANGELES
ALTERNATIVE ANALYSIS
SYLMAR TO PALMDALE - "SANTA CLARITA ALTERNATIVES"
PLAN & PROFILE
STA 1605+00 TO STA 1730+00

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REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
J. ELLIS
DRAWN BY
F. CAMPOS
CHECKED BY
L. TRUJILLO
IN CHARGE
J. HAWLEY
DATE
03-15-2012



Hatch Mott MacDonald, URS, & Arup
A HIGH-SPEED RAIL JOINT VENTURE

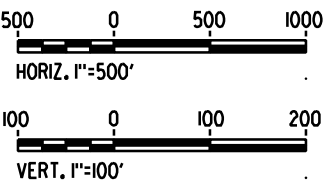
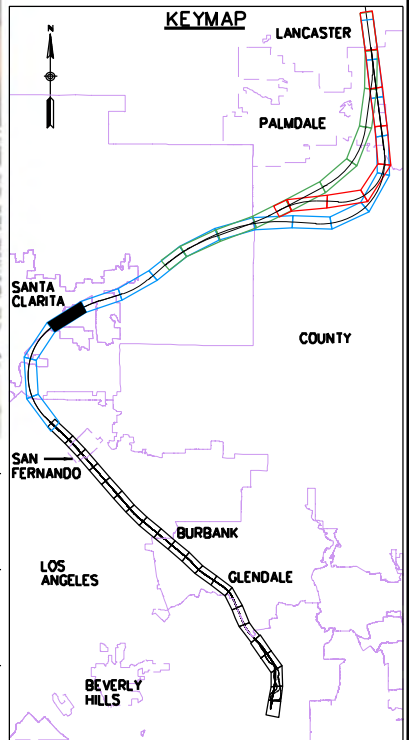
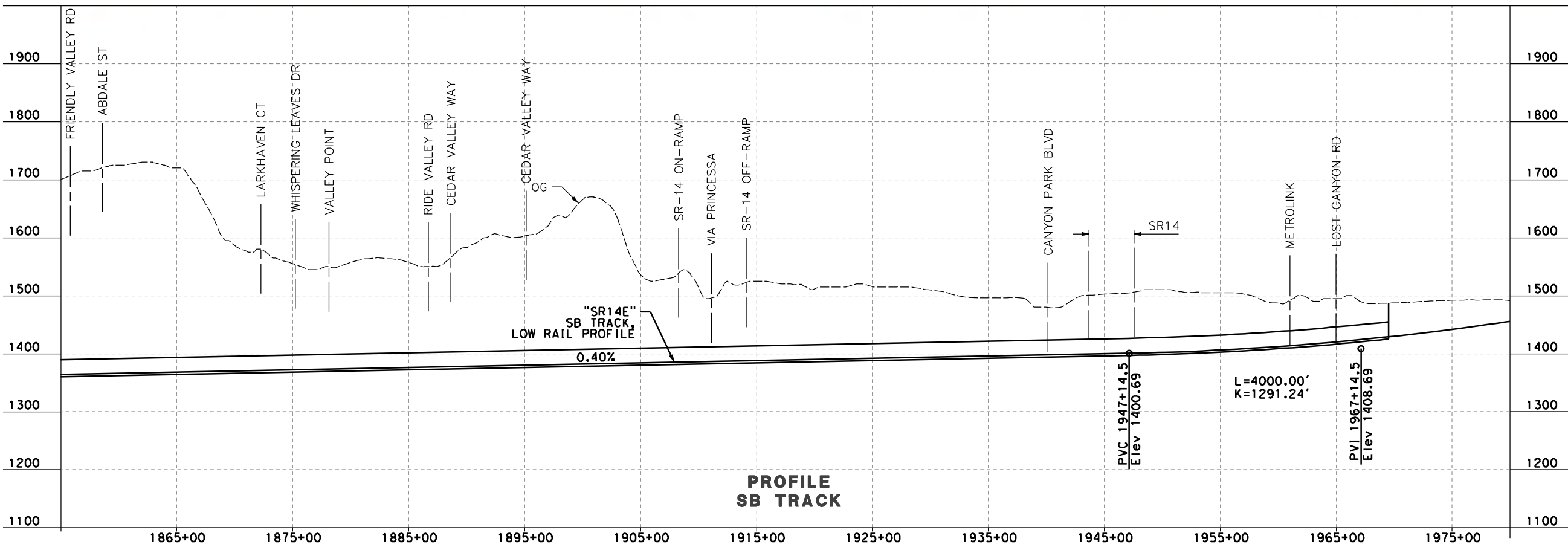
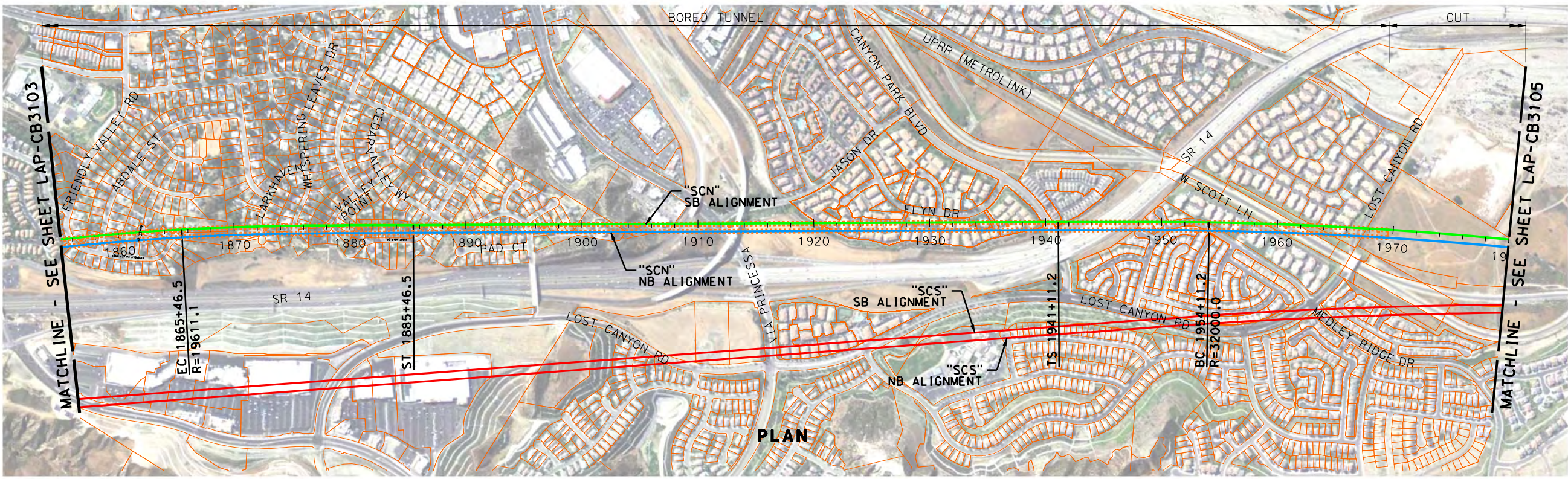


CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

CALIFORNIA HIGH-SPEED TRAIN PROJECT
PALMDALE TO LOS ANGELES
ALTERNATIVE ANALYSIS
SYLMAR TO PALMDALE - "SANTA CLARITA-ALTERNATIVES"
PLAN & PROFILE
STA 1730+00 TO STA 1855+00

CONTRACT NO.
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DRAWN BY
F. CAMPOS
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L. TRUJILLO
IN CHARGE
J. HAWLEY
DATE
03-15-2012



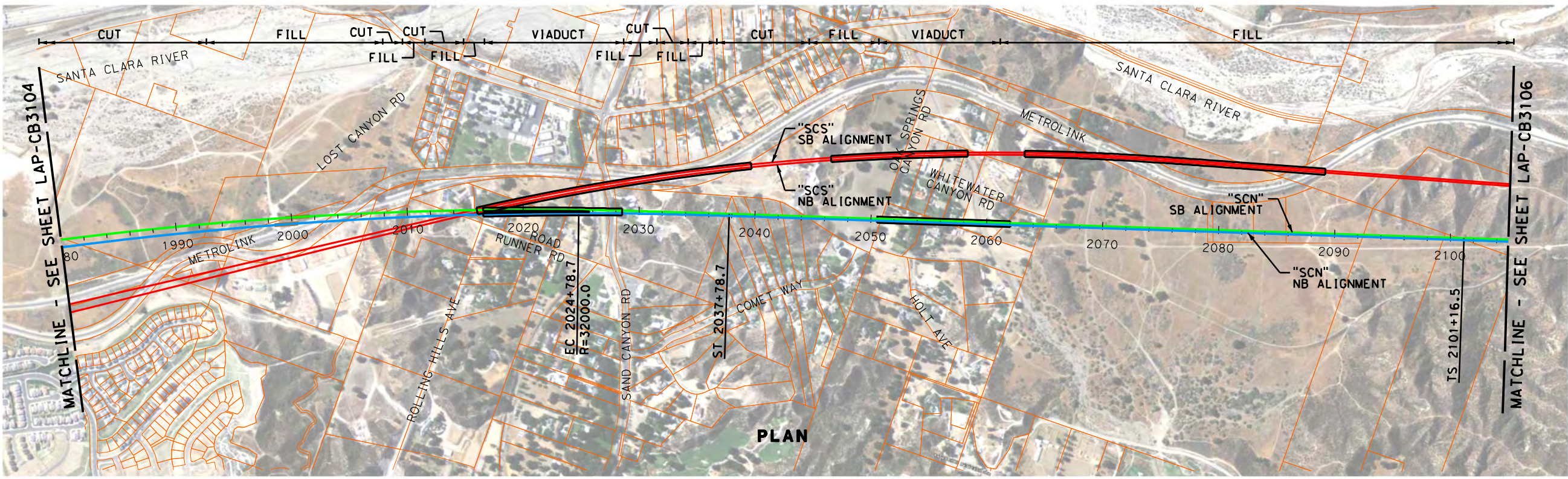
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A HIGH-SPEED RAIL JOINT VENTURE



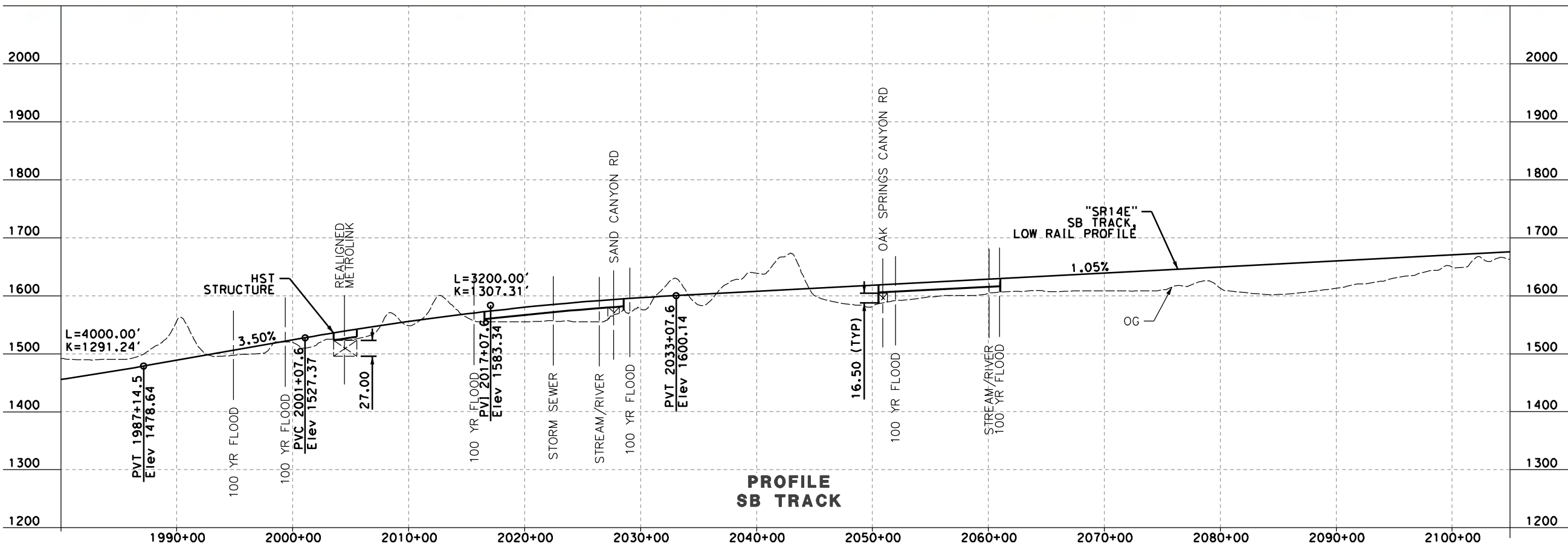
CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

CALIFORNIA HIGH-SPEED TRAIN PROJECT
PALMDALE TO LOS ANGELES
ALTERNATIVE ANALYSIS
SYLMAR TO PALMDALE-"SANTA CLARITA ALTERNATIVES"
PLAN & PROFILE
STA 1855+00 TO STA 1980+00

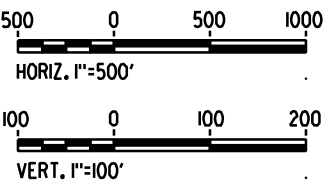
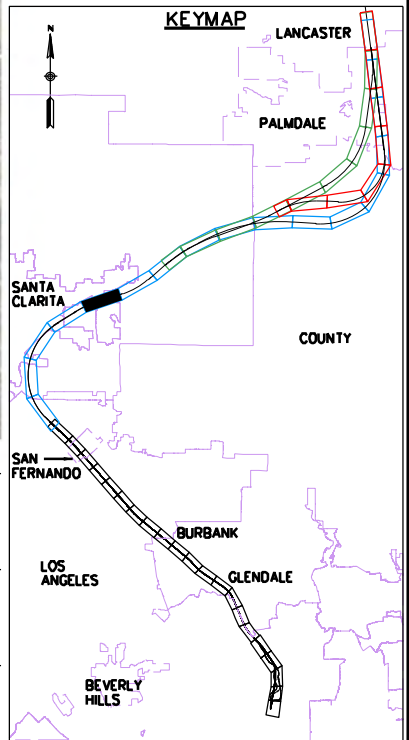
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LAP-CB3104
SCALE
AS SHOWN
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OF



PLAN



PROFILE
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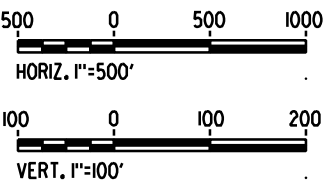
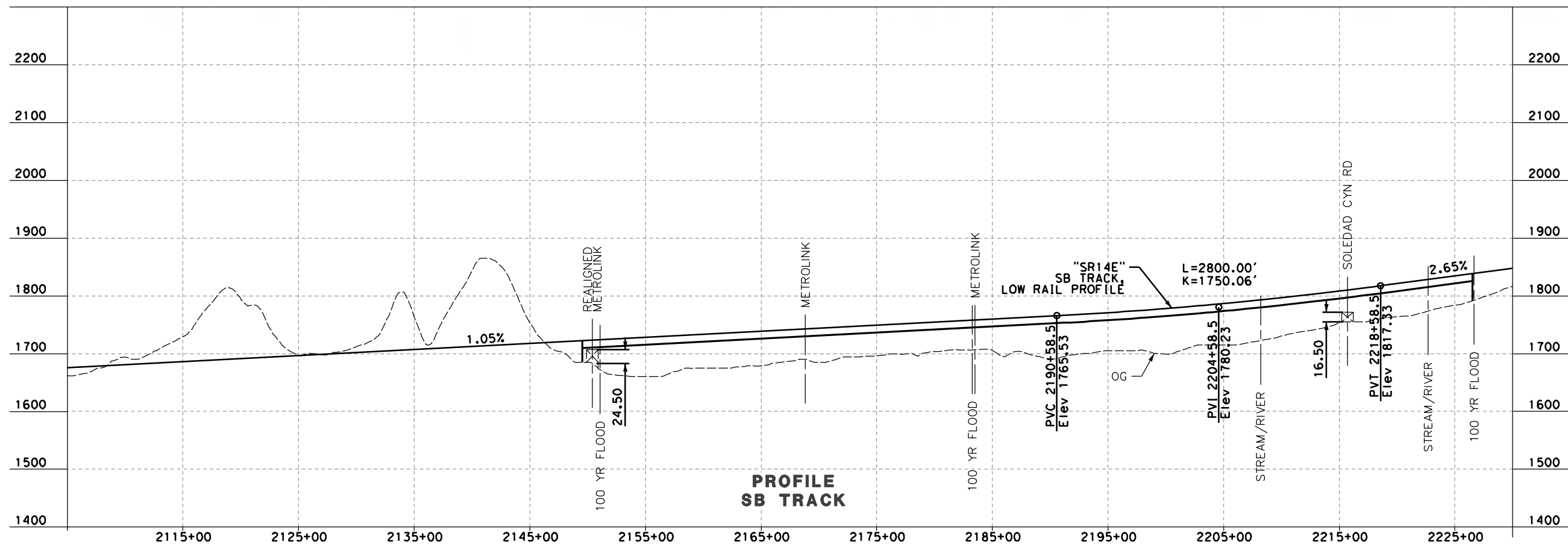
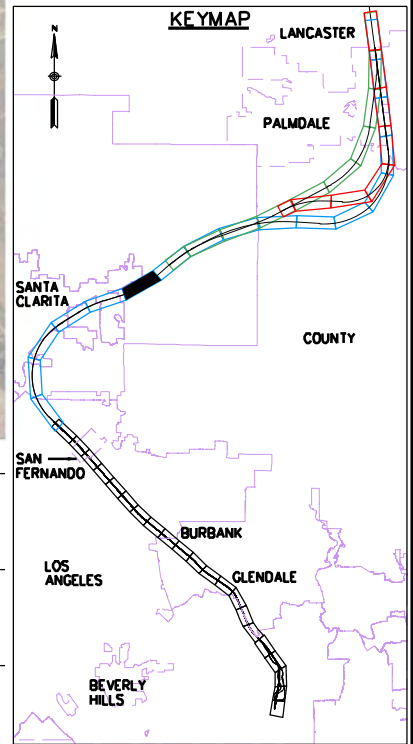
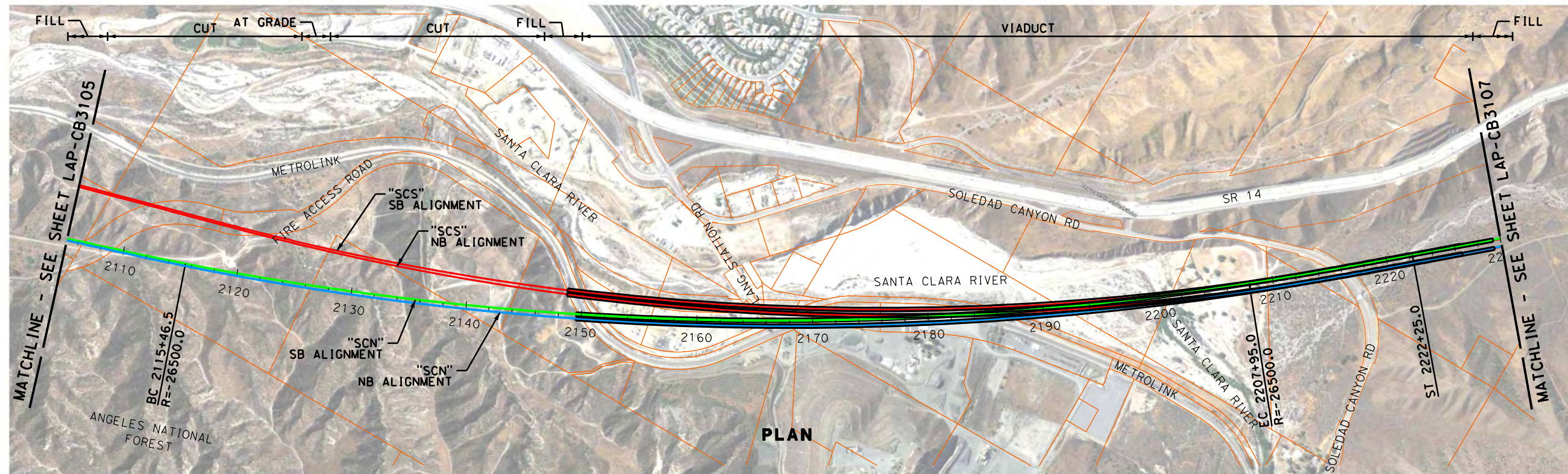
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DESIGNED BY J. ELLIS
DRAWN BY F. CAMPOS
CHECKED BY L. TRUJILLO
IN CHARGE J. HAWLEY
DATE 03-15-2012

Hatch Mott MacDonald, URS, & Arup
A HIGH-SPEED RAIL JOINT VENTURE

CALIFORNIA HIGH-SPEED TRAIN PROJECT
PALMDALE TO LOS ANGELES
ALTERNATIVE ANALYSIS
SYLMAR TO PALMDALE-"SANTA CLARITA ALTERNATIVES"
PLAN & PROFILE
STA 1980+00 TO STA 2105+00

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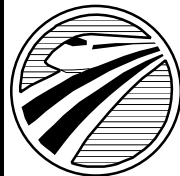
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REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
J. ELLIS
DRAWN BY
F. CAMPOS
CHECKED BY
L. TRUJILLO
IN CHARGE
J. HAWLEY
DATE
03-15-2012



Hatch Mott MacDonald, URS, & Arup
A HIGH-SPEED RAIL JOINT VENTURE

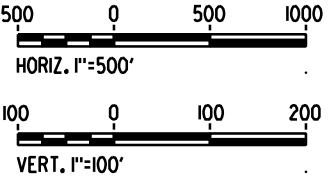
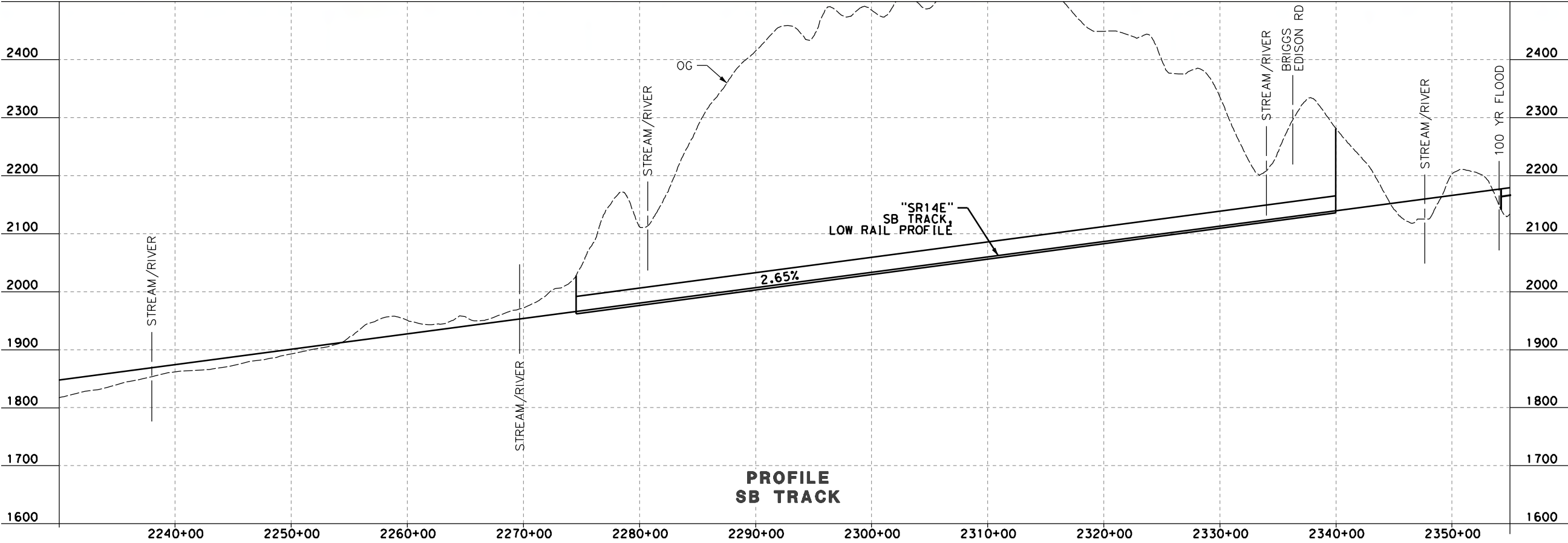
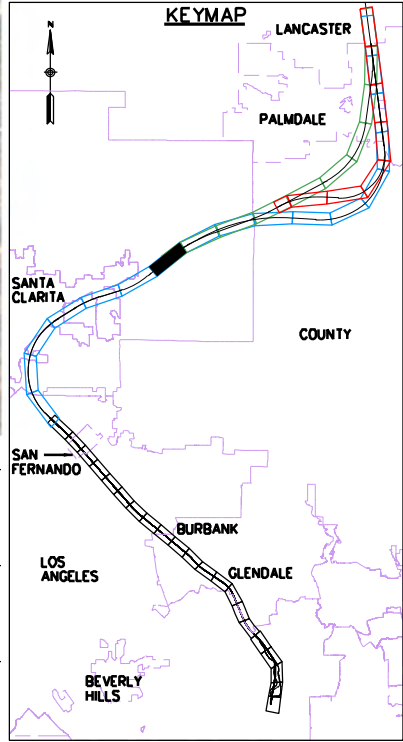
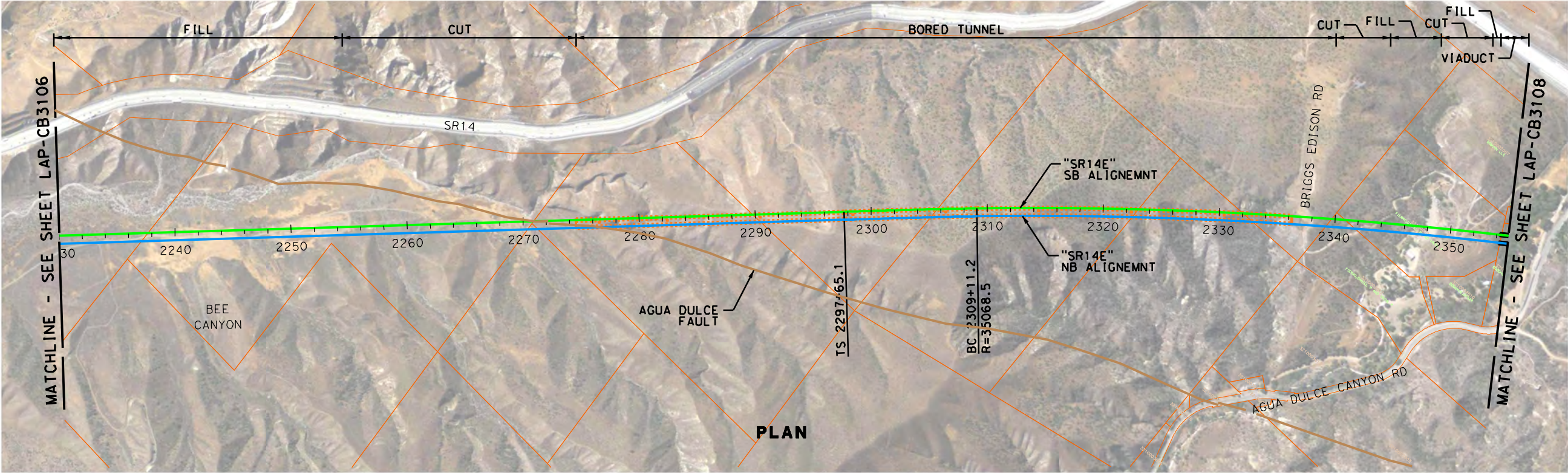


CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

CALIFORNIA HIGH-SPEED TRAIN PROJECT
PALMDALE TO LOS ANGELES
ALTERNATIVE ANALYSIS
SYLMAR TO PALMDALE-"SANTA CLARITA ALTERNATIVES"
PLAN & PROFILE
STA 2105+00 TO STA 2230+00

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CHECKED BY L. TRUJILLO
IN CHARGE J. HAWLEY
DATE 10-31-2011



Hatch Mott MacDonald, URS, & Arup
A HIGH-SPEED RAIL JOINT VENTURE

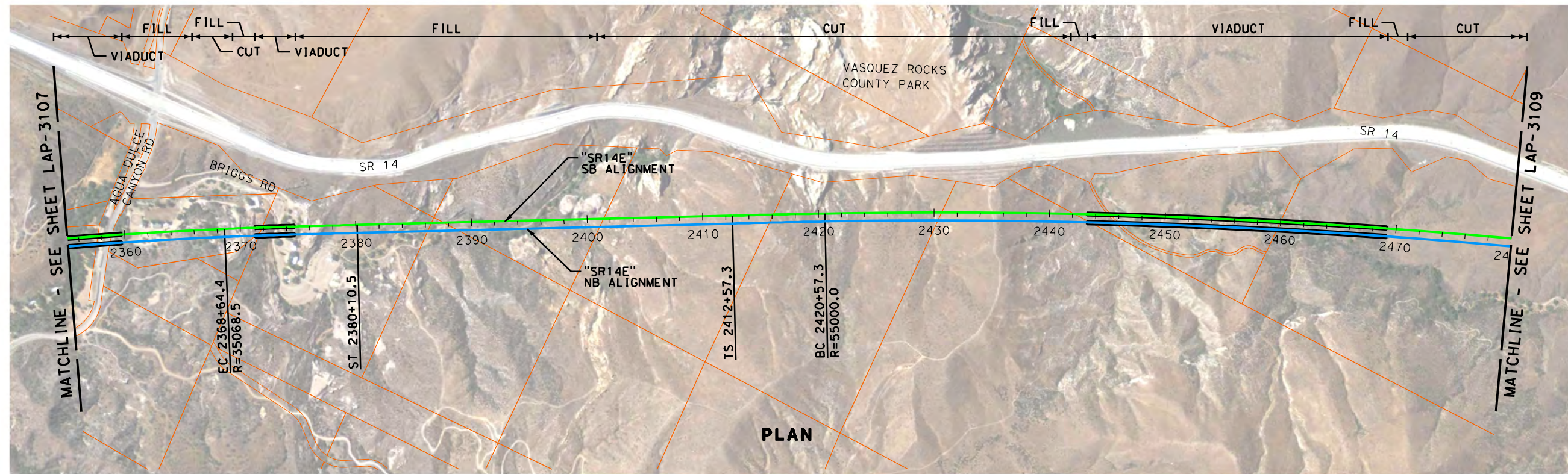


CALIFORNIA
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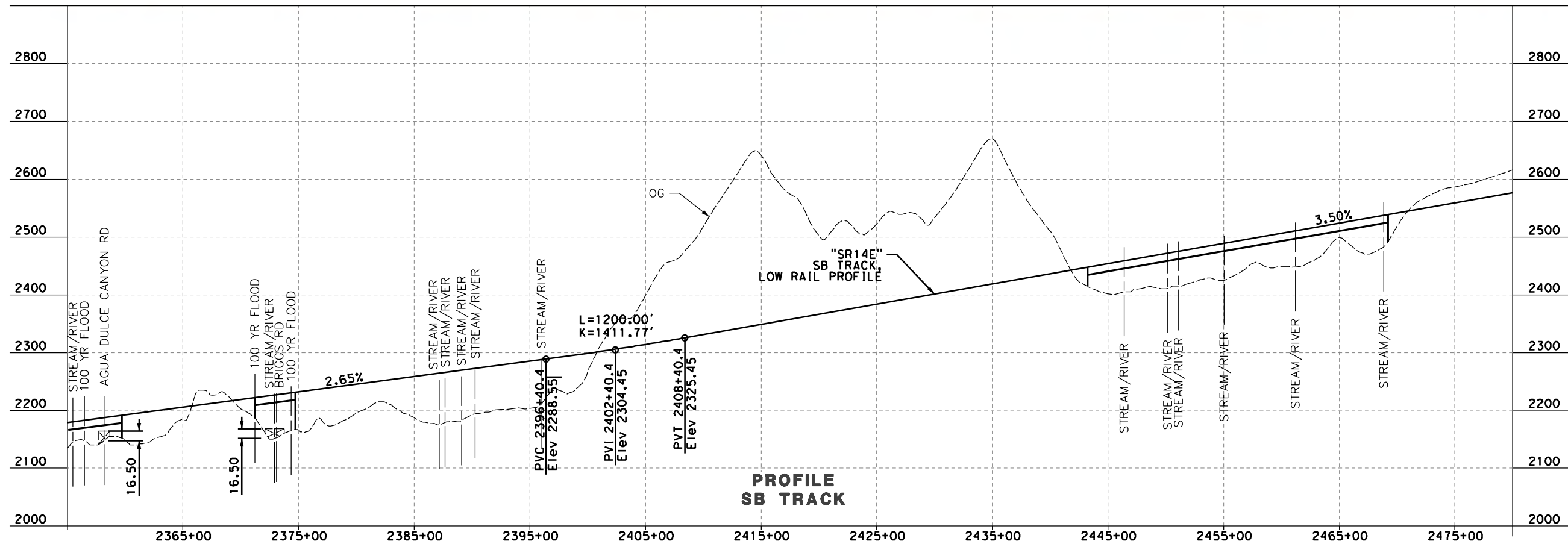
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PALMDALE TO LOS ANGELES
ALTERNATIVE ANALYSIS
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PLAN & PROFILE
STA 2230+00 TO STA 2355+00

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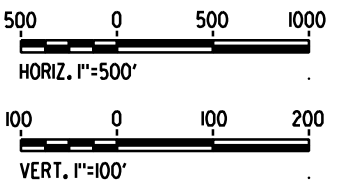
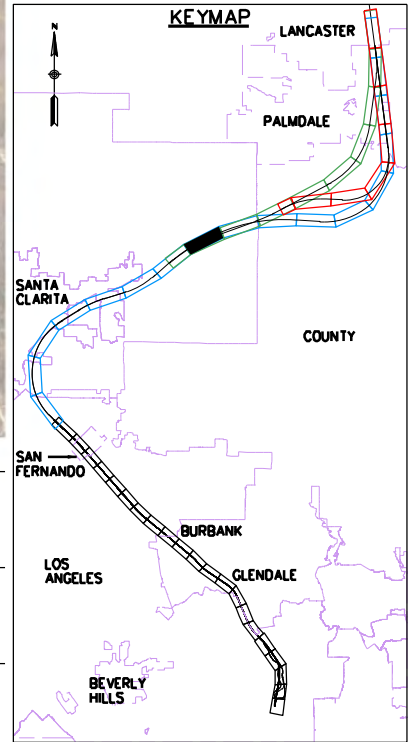
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PLAN



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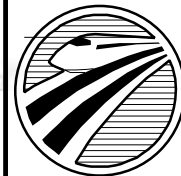


REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY J. ELLIS
DRAWN BY F. CAMPOS
CHECKED BY L. TRUJILLO
IN CHARGE J. HAWLEY
DATE 10-31-2011



Hatch Mott MacDonald, URS, & Arup
A HIGH-SPEED RAIL JOINT VENTURE

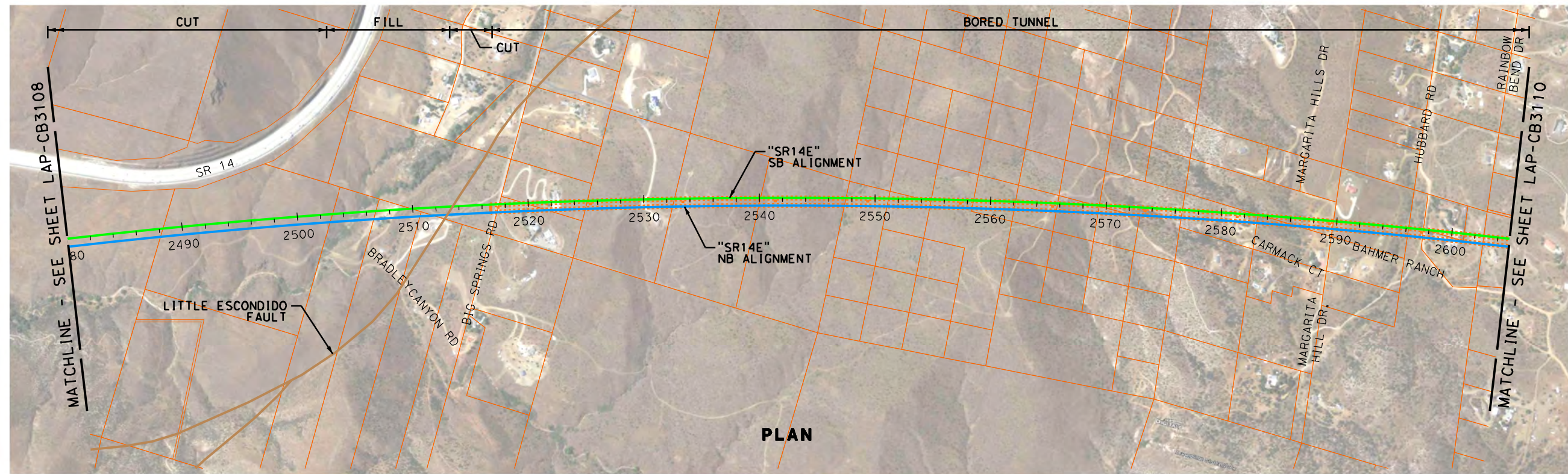


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HIGH-SPEED RAIL AUTHORITY

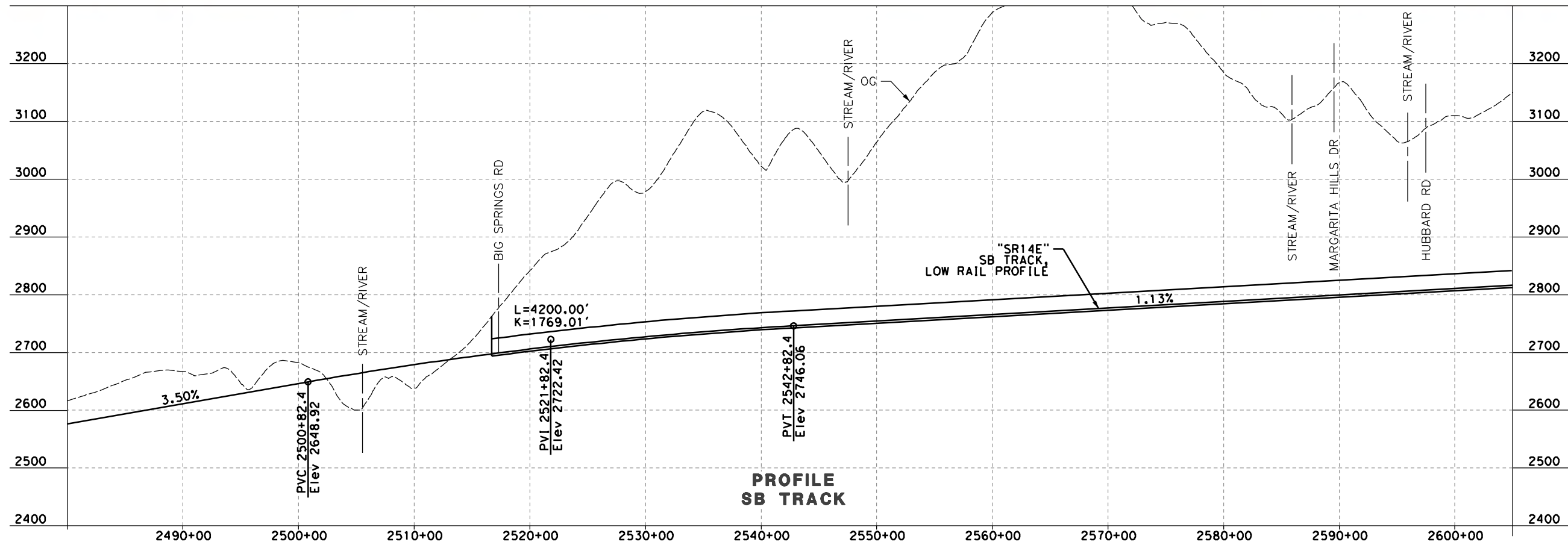
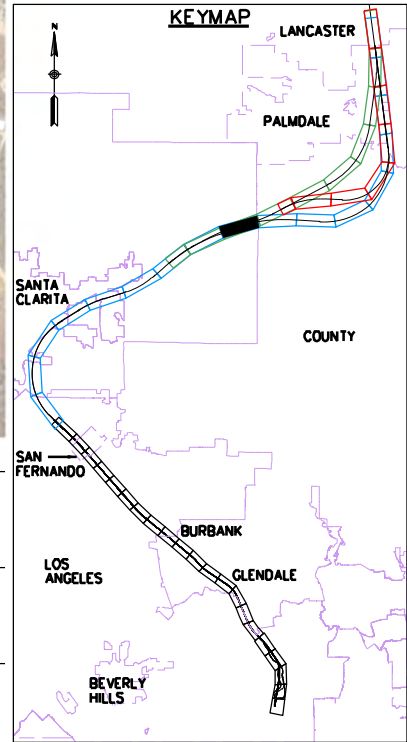
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PALMDALE TO LOS ANGELES
ALTERNATIVE ANALYSIS
SYLMAR TO PALMDALE - "SR14 EAST"
PLAN & PROFILE
STA 2355+00 TO STA 2480+00

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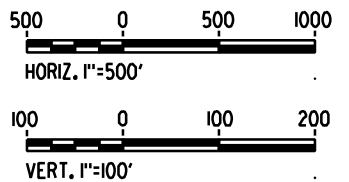
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PLAN



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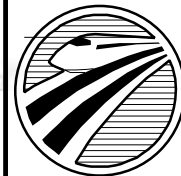


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DESIGNED BY J. ELLIS
DRAWN BY F. CAMPOS
CHECKED BY L. TRUJILLO
IN CHARGE J. HAWLEY
DATE 10-31-2011



Hatch Mott MacDonald, URS, & Arup
A HIGH-SPEED RAIL JOINT VENTURE

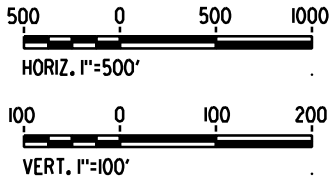
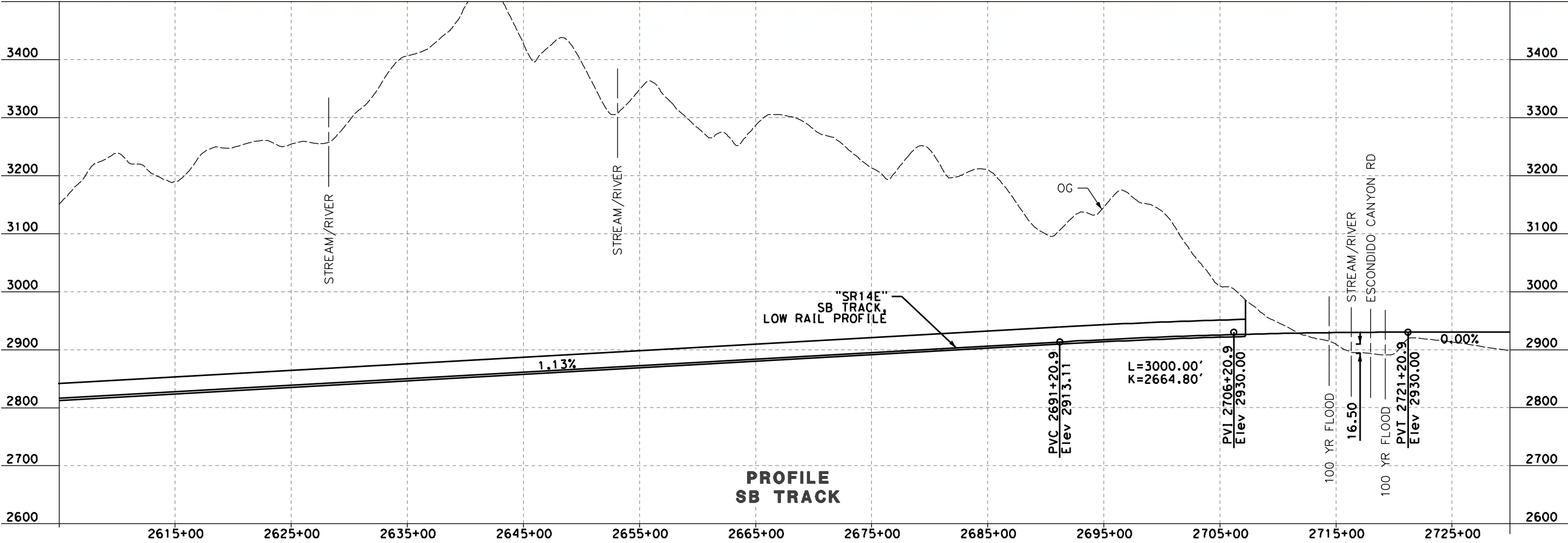
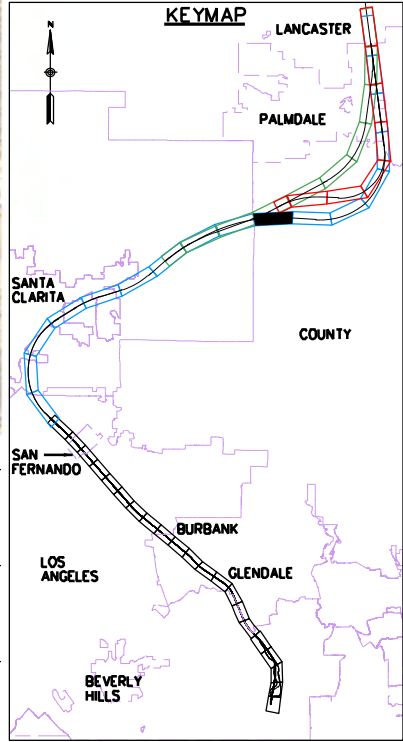
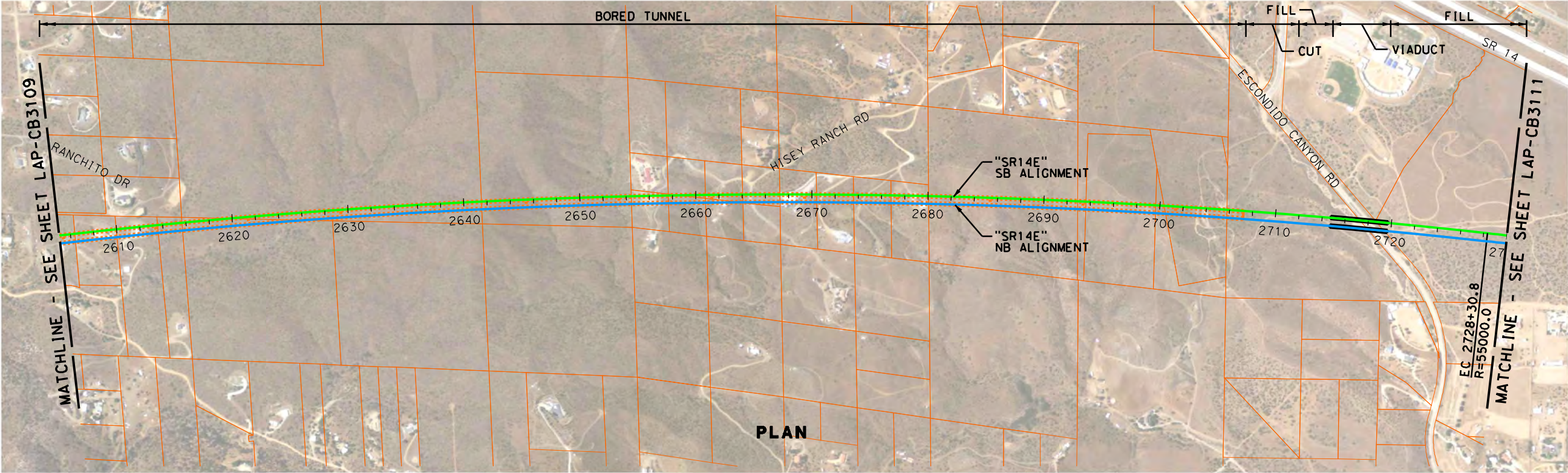


CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

CALIFORNIA HIGH-SPEED TRAIN PROJECT
PALMDALE TO LOS ANGELES
ALTERNATIVE ANALYSIS
SYLMAR TO PALMDALE - "SR14 EAST"
PLAN & PROFILE
STA 2480+00 TO STA 2605+00

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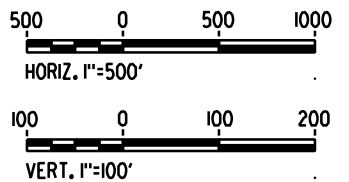
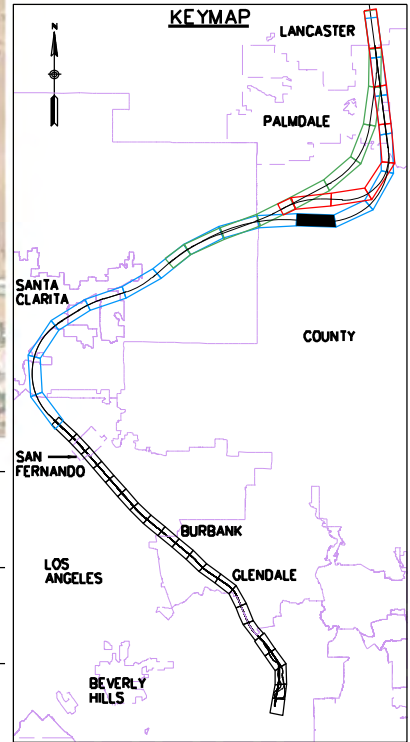
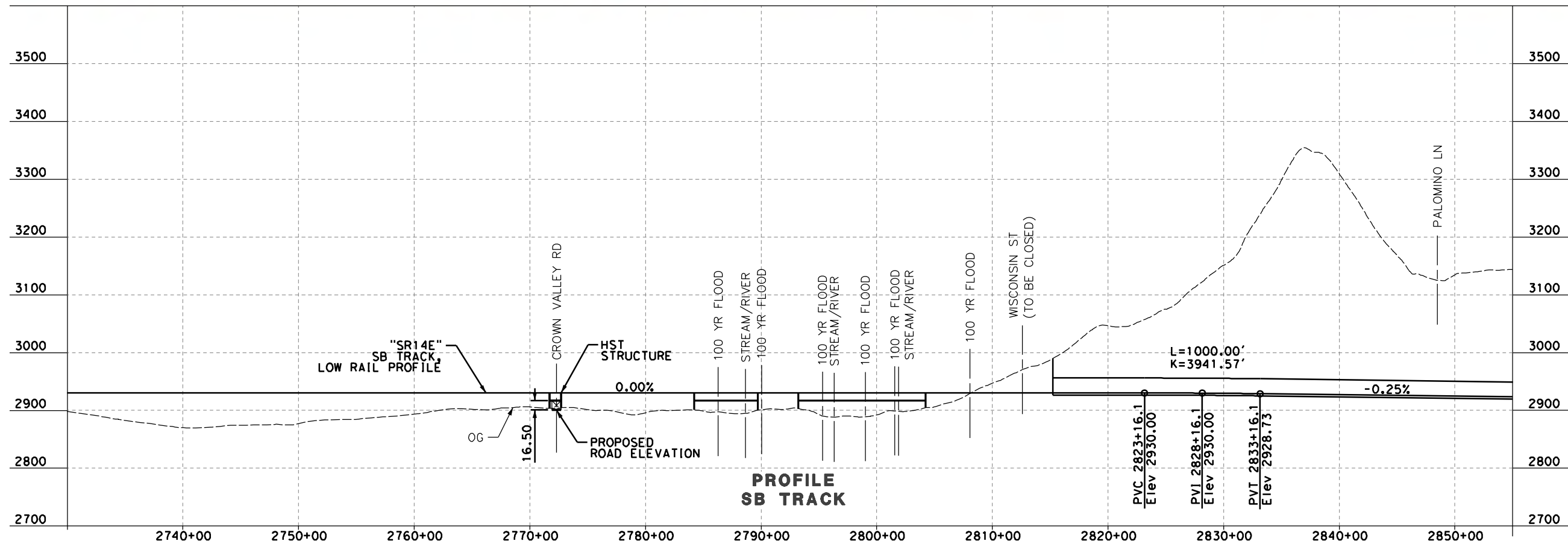
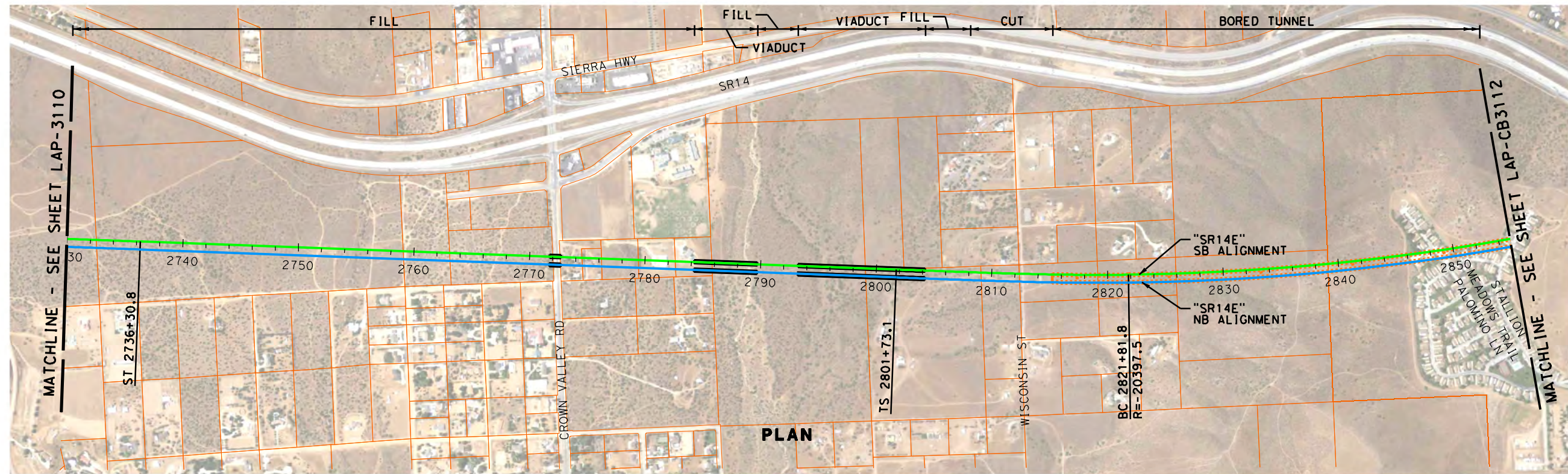
DESIGNED BY J. ELLIS
DRAWN BY F. CAMPOS
CHECKED BY L. TRUJILLO
IN CHARGE J. HAWLEY
DATE 10-31-2011



CALIFORNIA HIGH-SPEED TRAIN PROJECT
PALMDALE TO LOS ANGELES
ALTERNATIVE ANALYSIS
SYLMAR TO PALMDALE - "SR14 EAST"
PLAN & PROFILE
STA 2605+00 TO STA 2730+00

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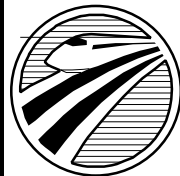


REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY J. ELLIS
DRAWN BY F. CAMPOS
CHECKED BY L. TRUJILLO
IN CHARGE J. HAWLEY
DATE 10-31-2011



Hatch Mott MacDonald, URS, & Arup
A HIGH-SPEED RAIL JOINT VENTURE

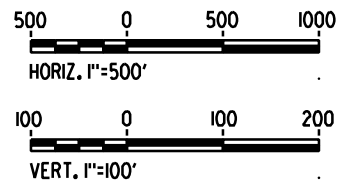
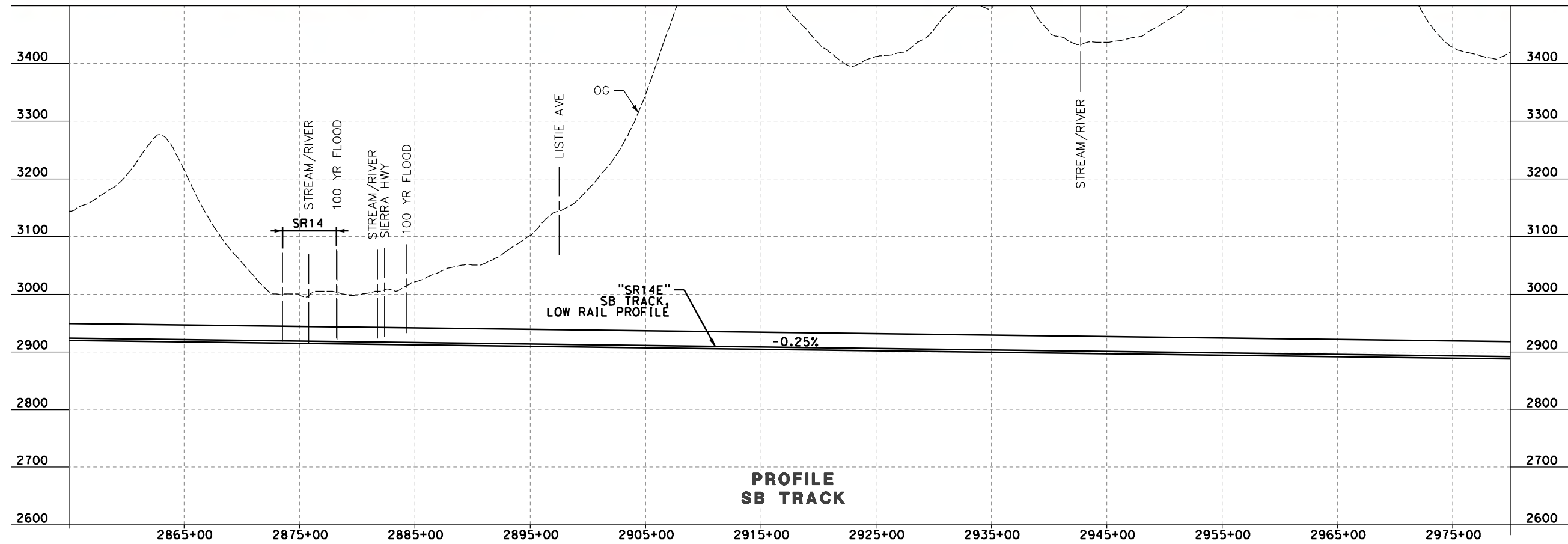
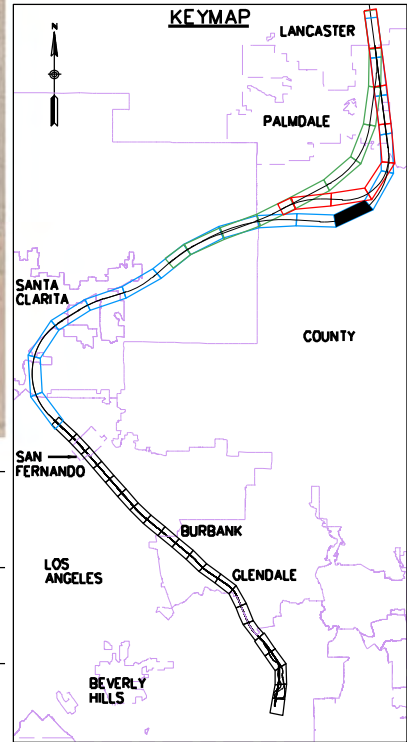
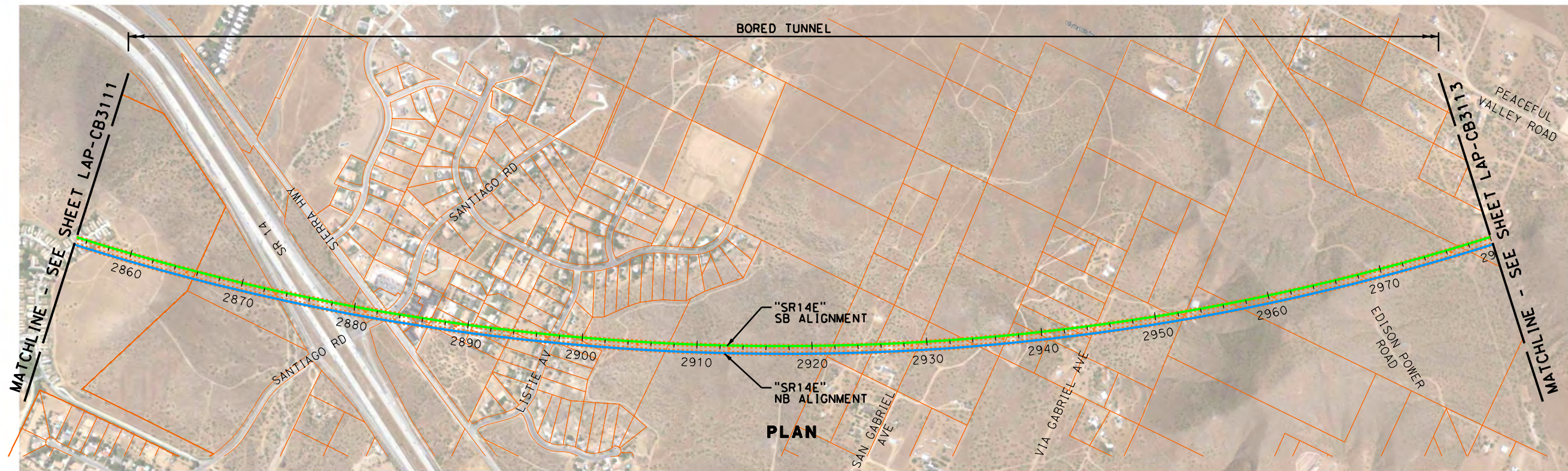


CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

CALIFORNIA HIGH-SPEED TRAIN PROJECT
PALMDALE TO LOS ANGELES
ALTERNATIVE ANALYSIS
SYLMAR TO PALMDALE - "SR14 EAST"
PLAN & PROFILE
STA 2730+00 TO STA 2855+00

CONTRACT NO.
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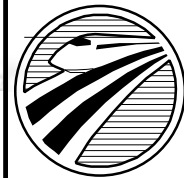


REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY J. ELLIS
DRAWN BY F. CAMPOS
CHECKED BY L. TRUJILLO
IN CHARGE J. HAWLEY
DATE 10-31-2011



Hatch Mott MacDonald, URS, & Arup
A HIGH-SPEED RAIL JOINT VENTURE



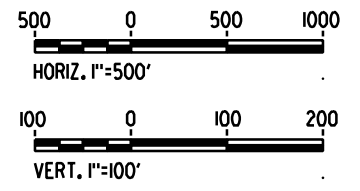
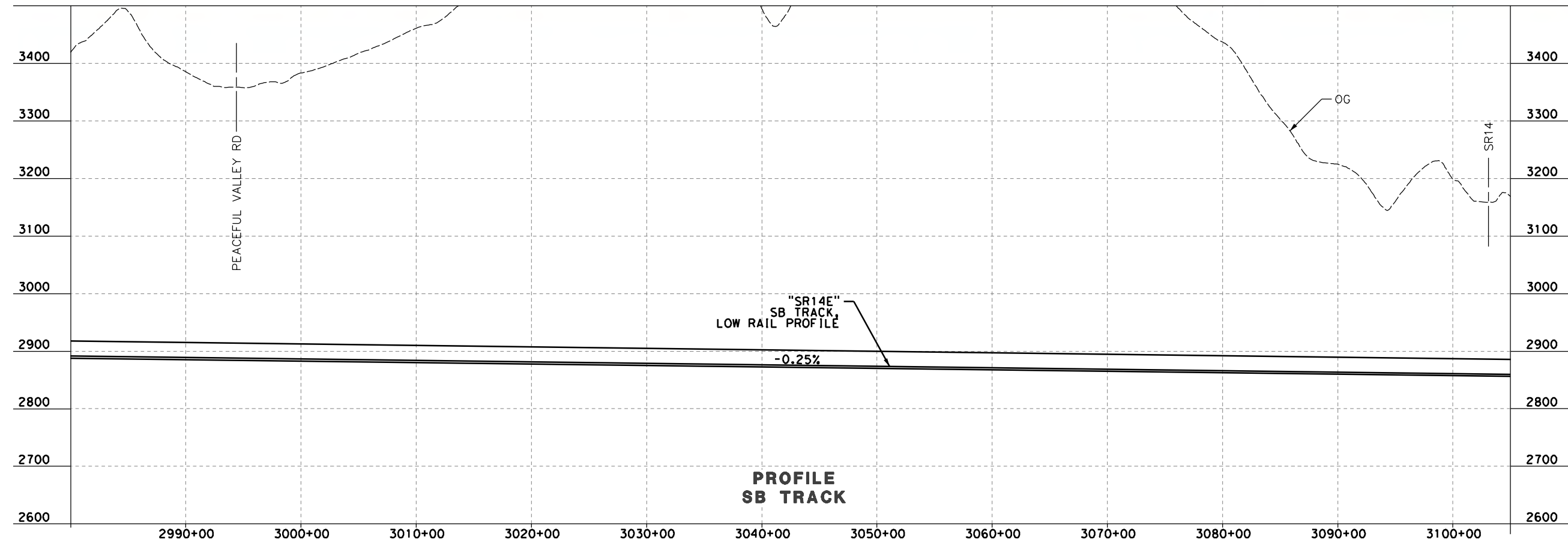
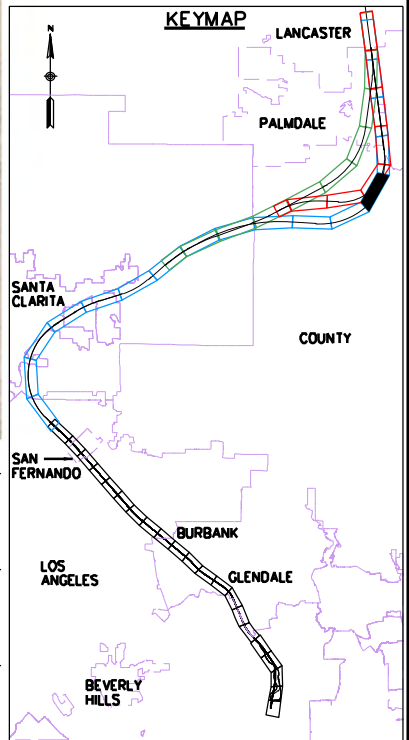
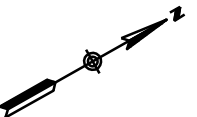
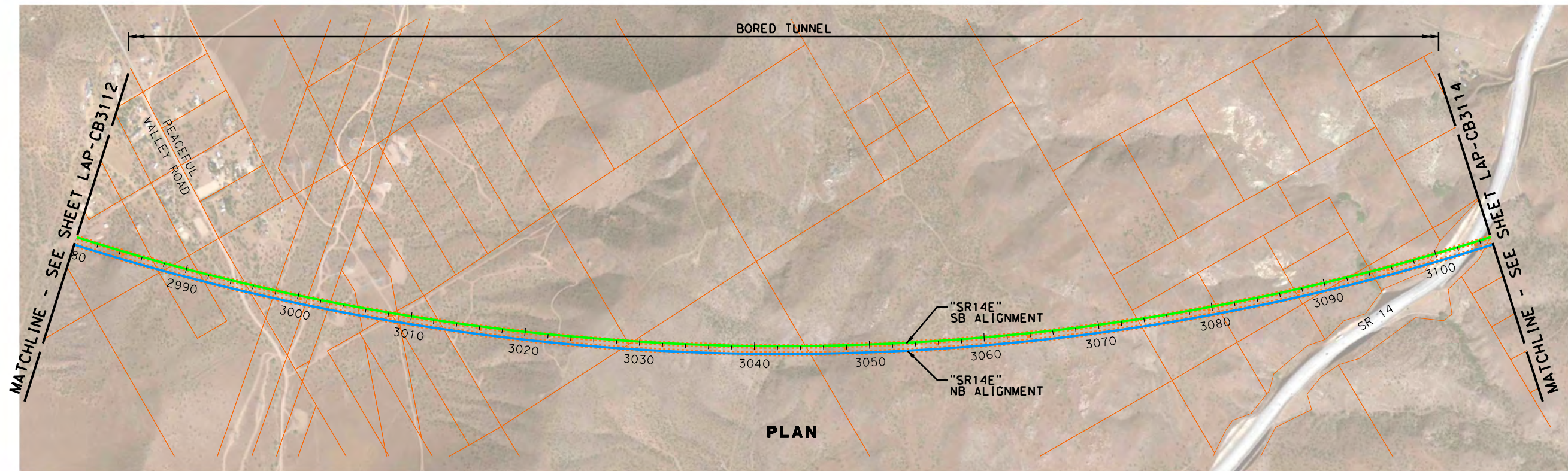
CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

CALIFORNIA HIGH-SPEED TRAIN PROJECT
PALMDALE TO LOS ANGELES
ALTERNATIVE ANALYSIS
SYLMAR TO PALMDALE - "SR14 EAST"
PLAN & PROFILE
STA 2855+00 TO STA 2980+00

CONTRACT NO.
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Bernard.Bod



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DESIGNED BY
J. ELLIS
DRAWN BY
F. CAMPOS
CHECKED BY
L. TRUJILLO
IN CHARGE
J. HAWLEY
DATE
10-31-2011



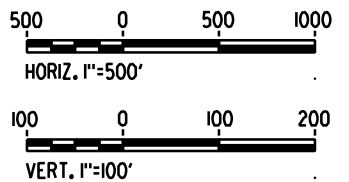
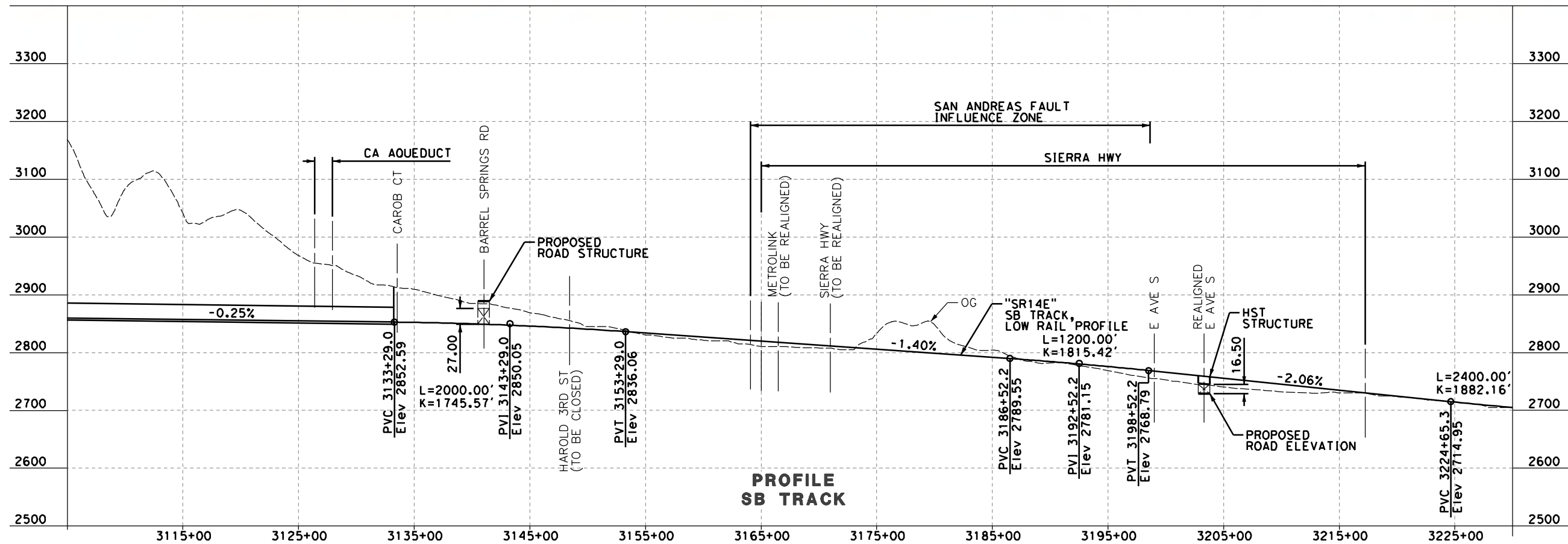
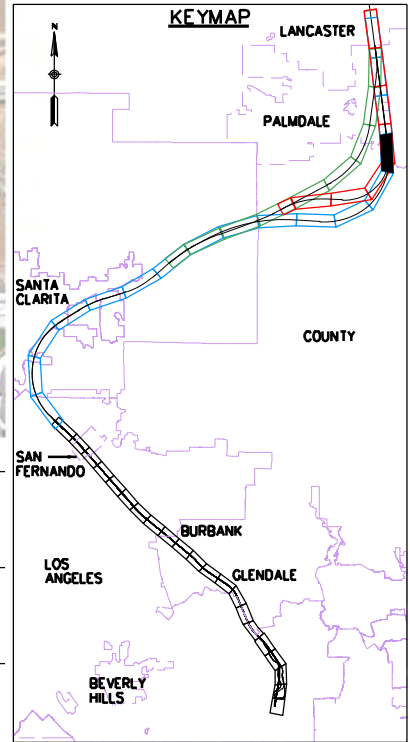
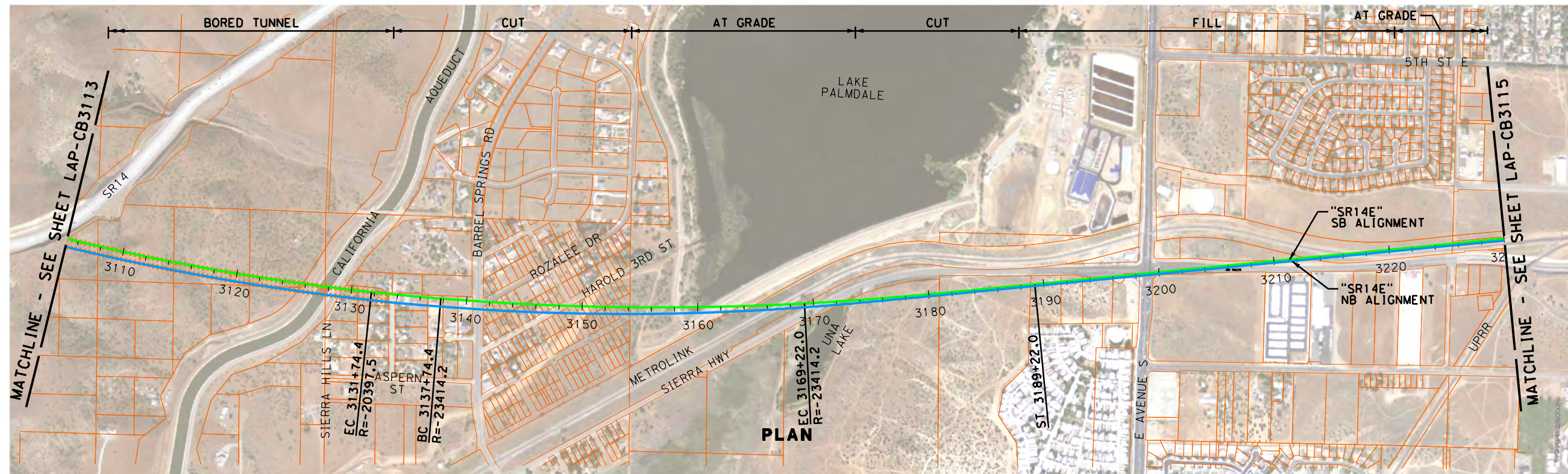
Hatch Mott MacDonald, URS, & Arup
A HIGH-SPEED RAIL JOINT VENTURE



CALIFORNIA HIGH-SPEED TRAIN PROJECT
PALMDALE TO LOS ANGELES
ALTERNATIVE ANALYSIS
SYLMAR TO PALMDALE - "SR14 EAST"
PLAN & PROFILE
STA 2980+00 TO STA 3105+00

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IN CHARGE J. HAWLEY
DATE 10-31-2011



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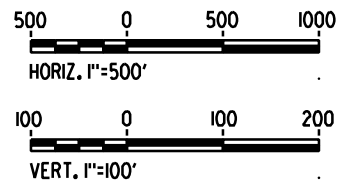
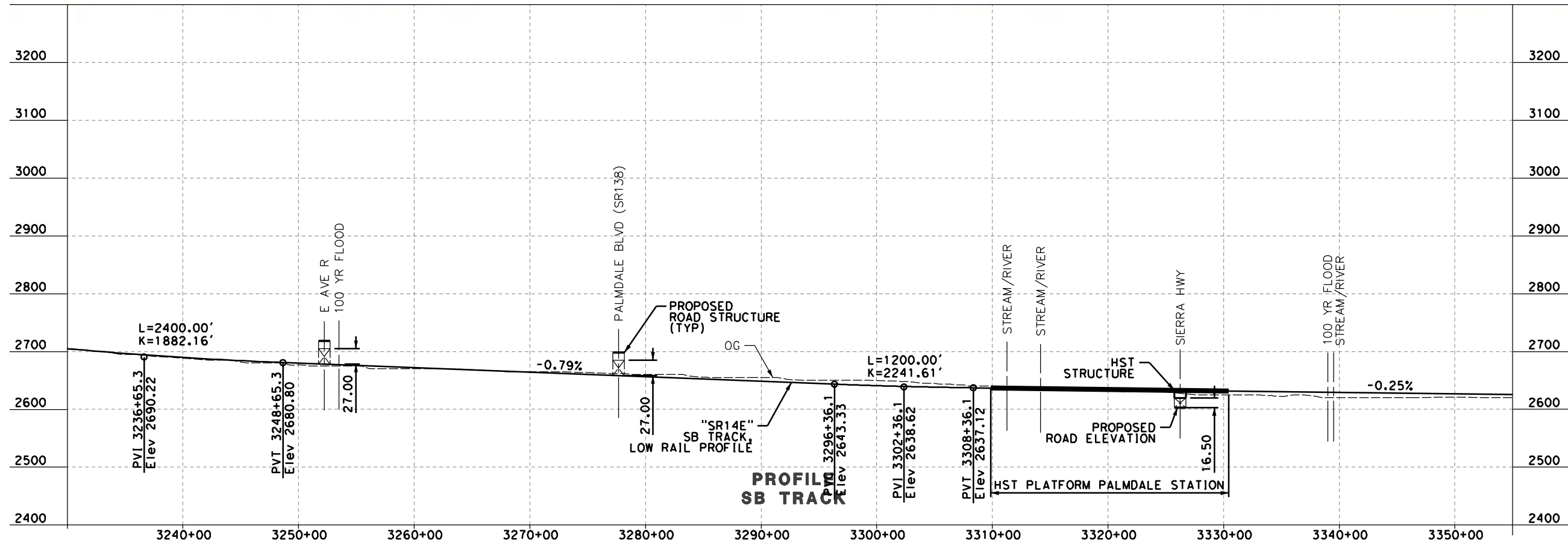
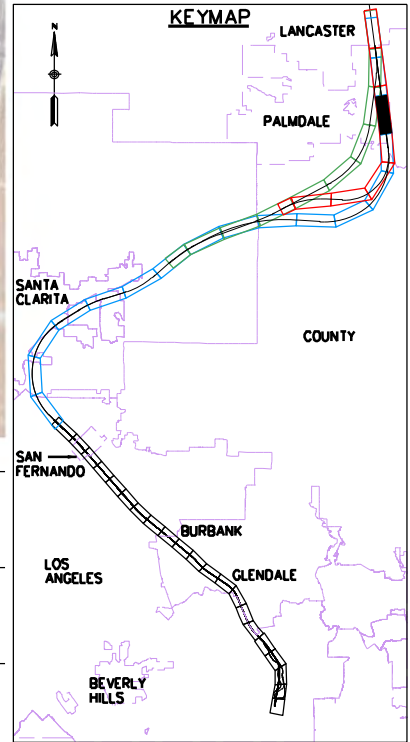
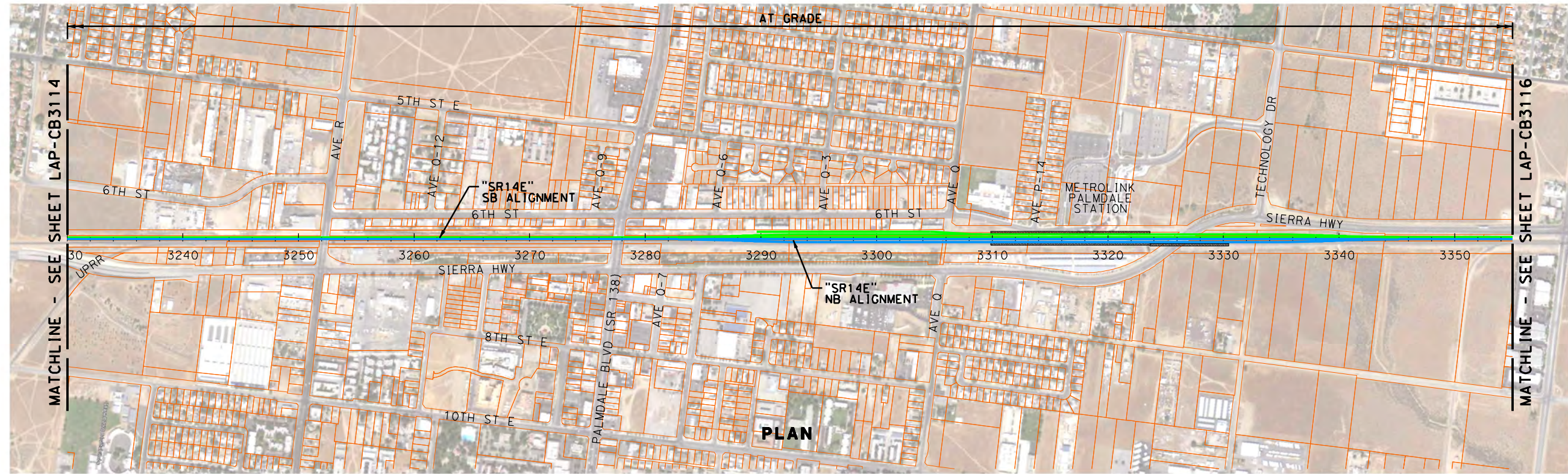


CALIFORNIA
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CALIFORNIA HIGH-SPEED TRAIN PROJECT
PALMDALE TO LOS ANGELES
ALTERNATIVE ANALYSIS
SYLMAR TO PALMDALE - "SR14 EAST"
PLAN & PROFILE
STA 3105+00 TO STA 3230+00

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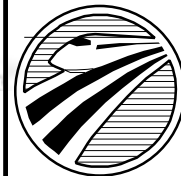


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DESIGNED BY J. ELLIS
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DATE 10-31-2011



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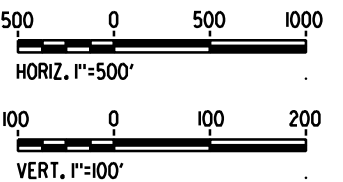
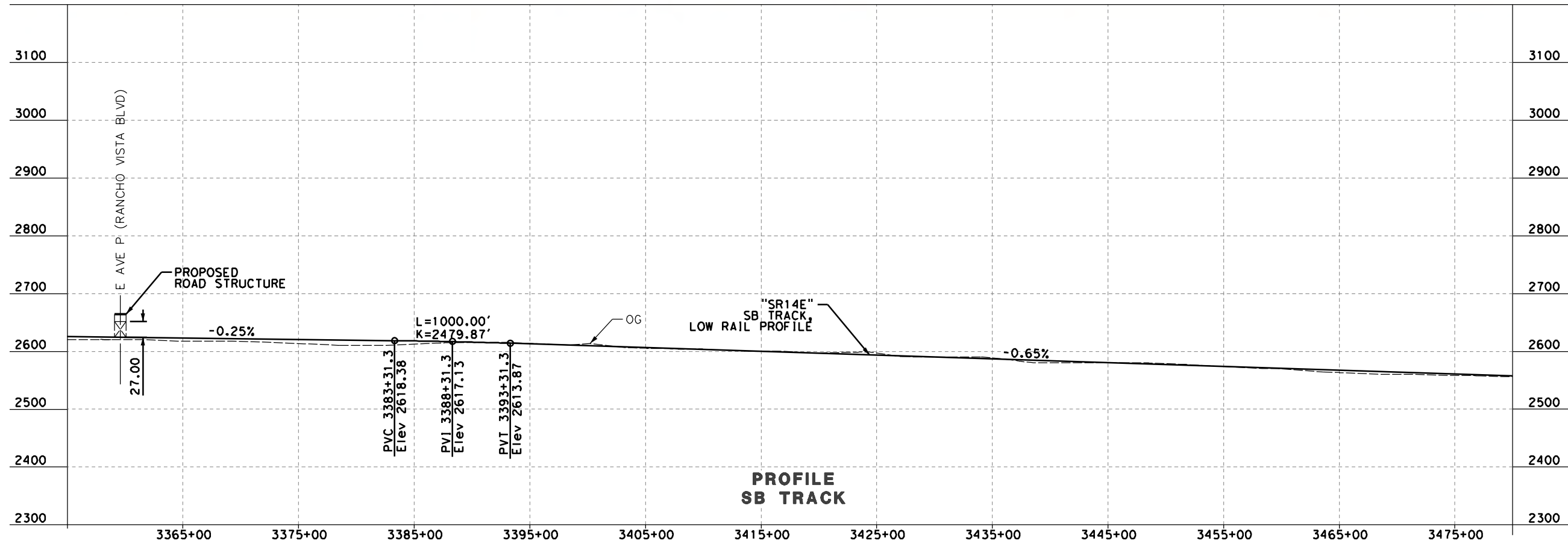
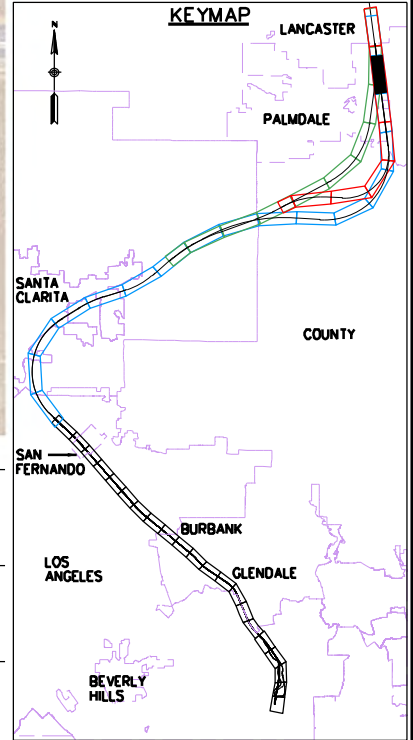
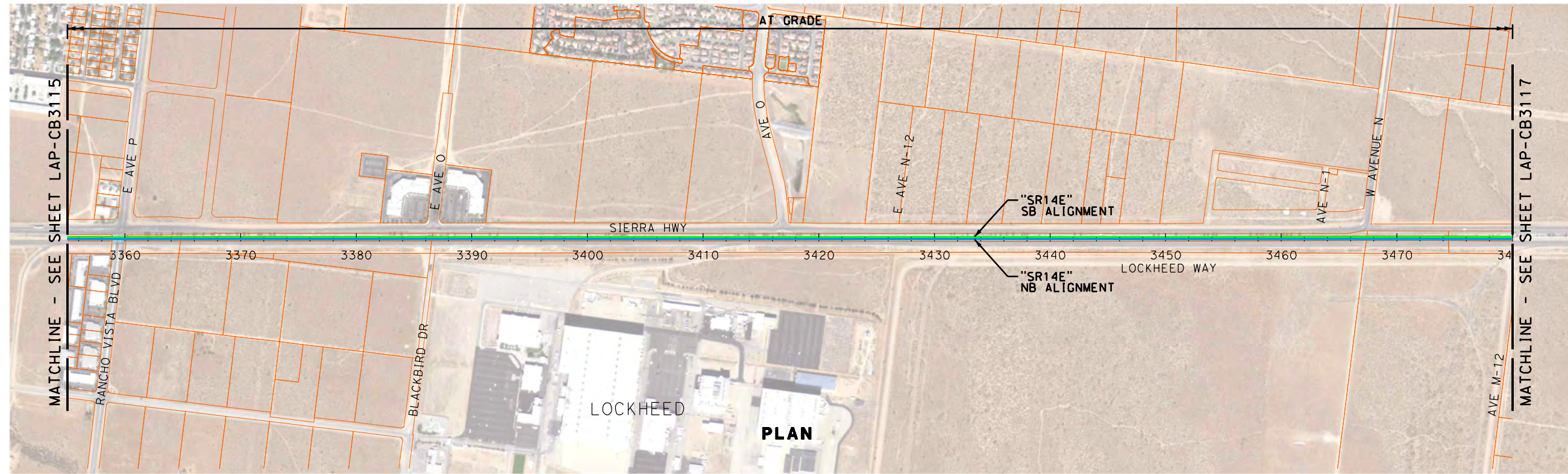


CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

CALIFORNIA HIGH-SPEED TRAIN PROJECT
PALMDALE TO LOS ANGELES
ALTERNATIVE ANALYSIS
SYLMAR TO PALMDALE - "SR14 EAST"
PLAN PROFILE
STA 3230+00 TO STA 3355+00

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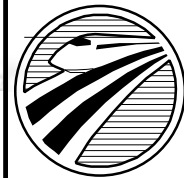


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DESIGNED BY J. ELLIS
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IN CHARGE J. HAWLEY
DATE 10-31-2011



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A HIGH-SPEED RAIL JOINT VENTURE

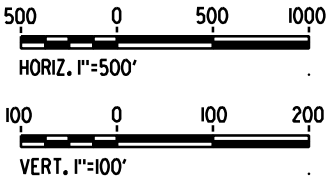
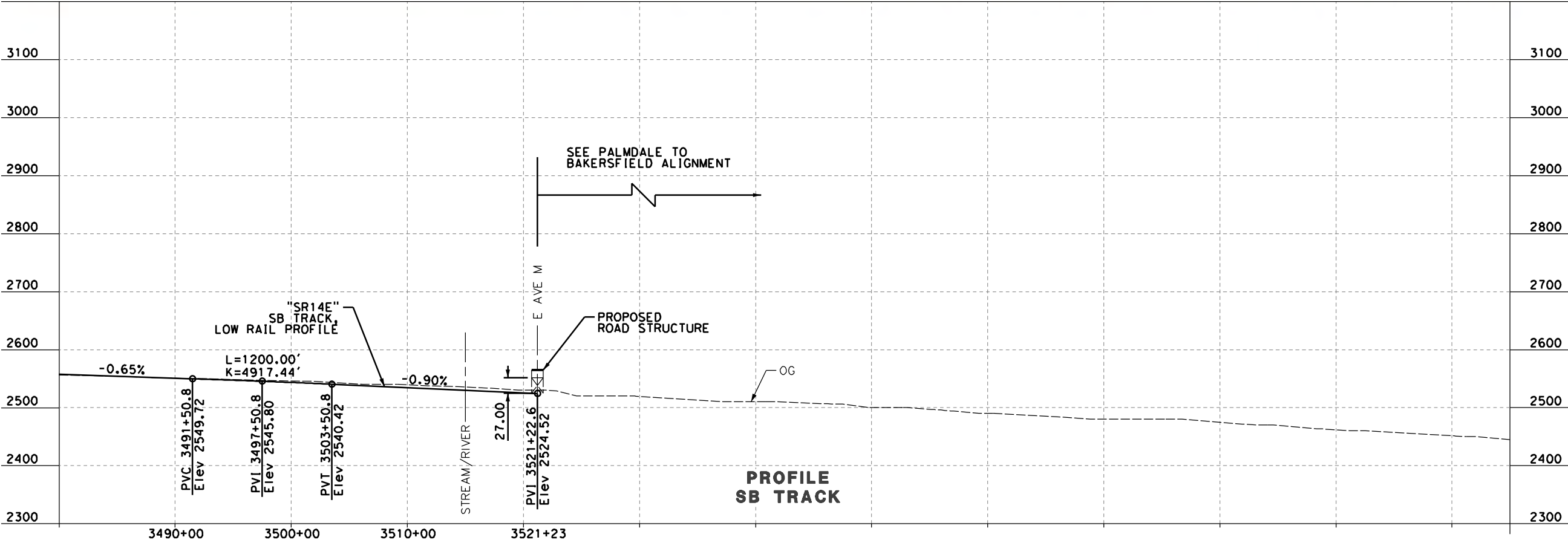
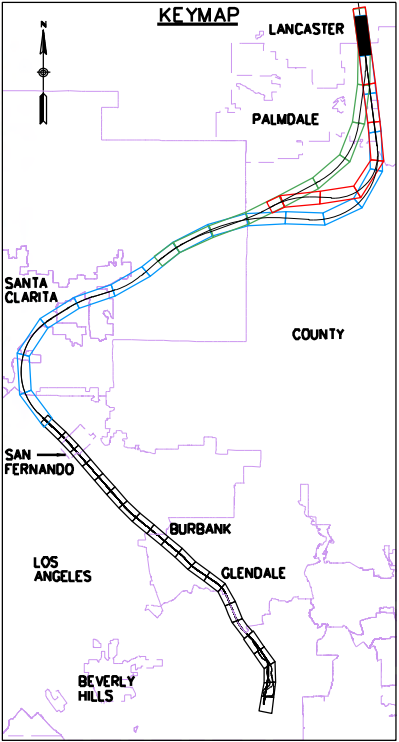
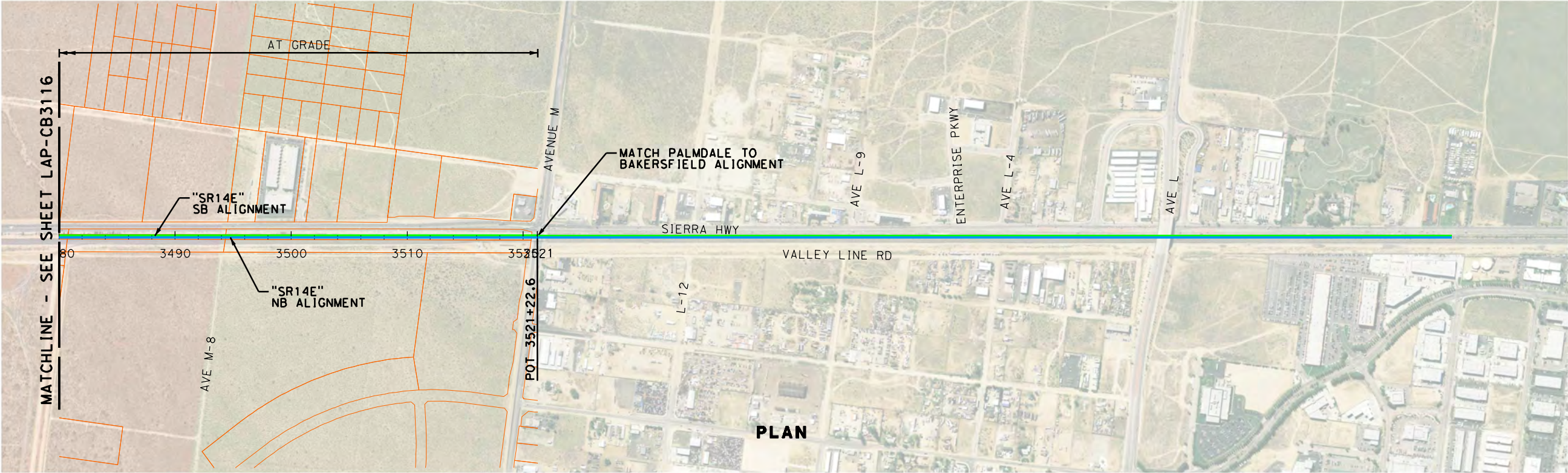


CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

CALIFORNIA HIGH-SPEED TRAIN PROJECT
PALMDALE TO LOS ANGELES
ALTERNATIVE ANALYSIS
SYLMAR TO PALMDALE - "SR14 EAST"
PLAN & PROFILE
STA 3355+00 TO STA 3480+00

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DATE 10-31-2011



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A HIGH-SPEED RAIL JOINT VENTURE

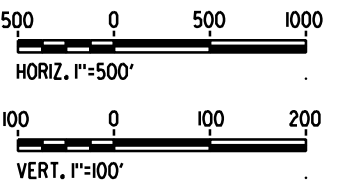
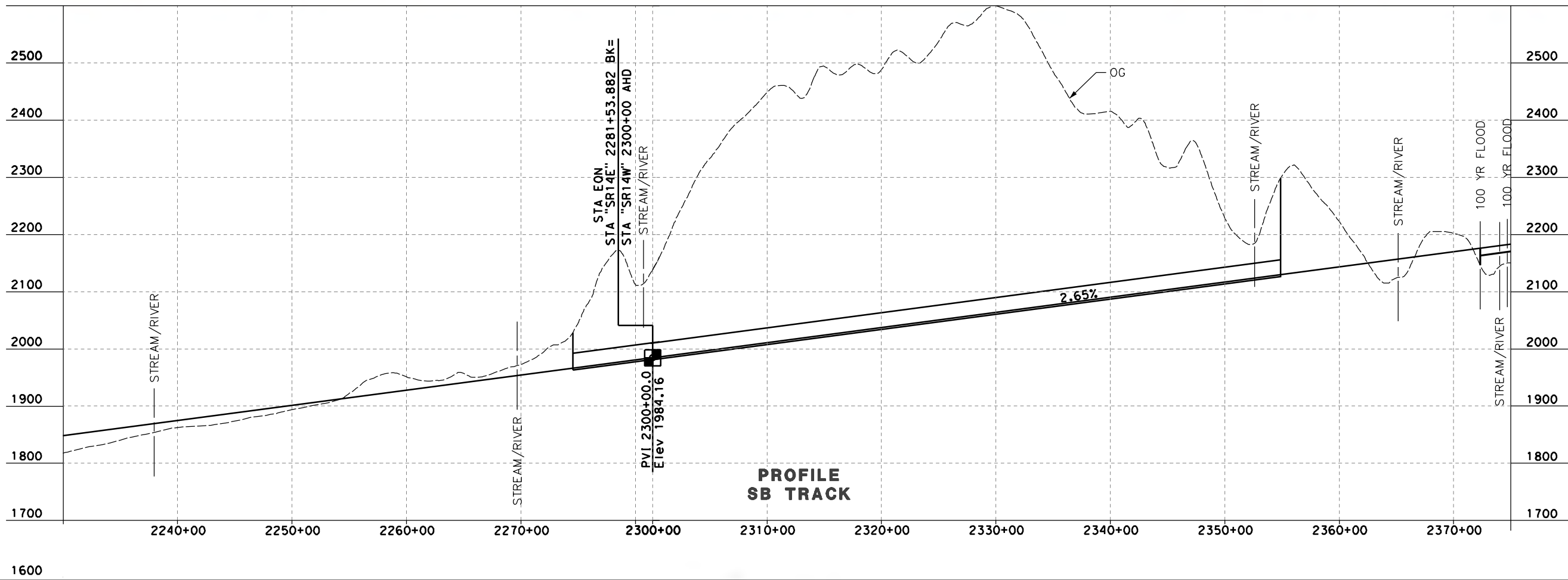
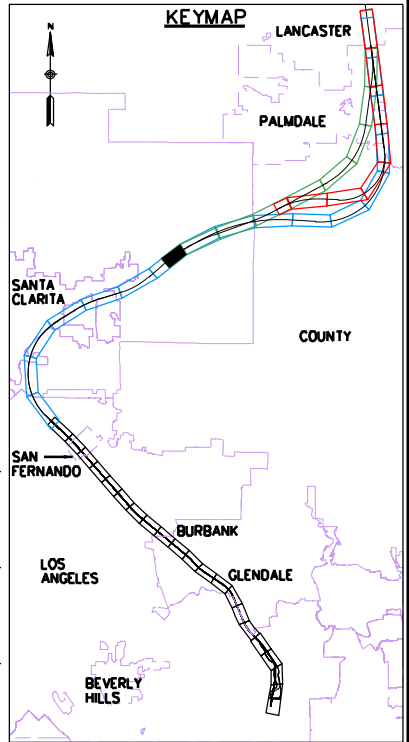
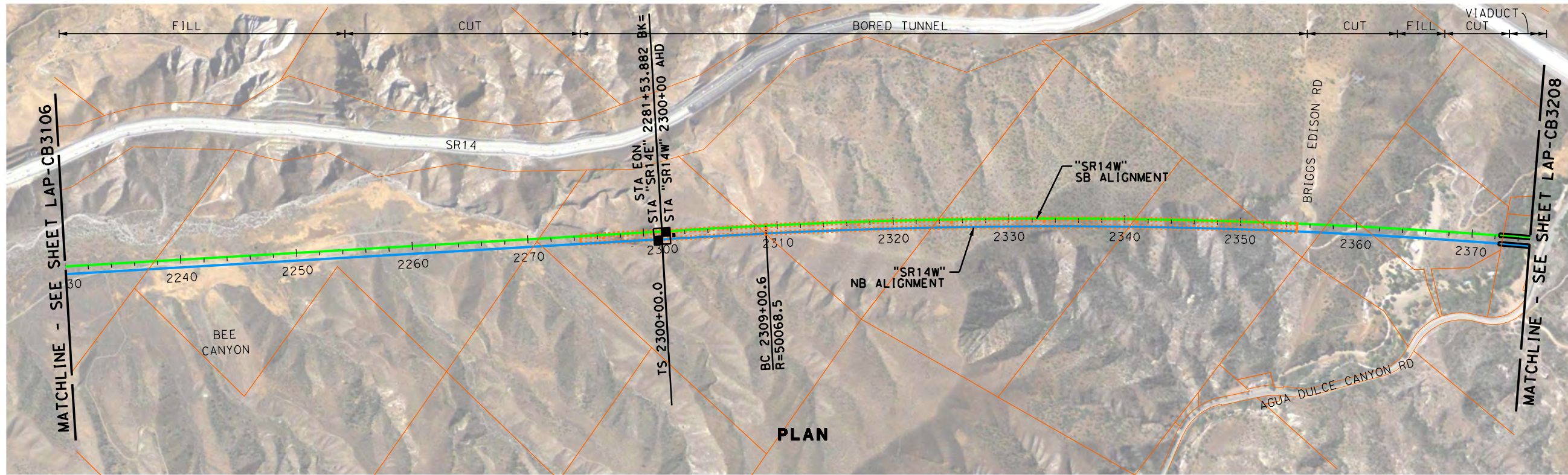


CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

CALIFORNIA HIGH-SPEED TRAIN PROJECT
PALMDALE TO LOS ANGELES
ALTERNATIVE ANALYSIS
SYLMAR TO PALMDALE - "SR14 EAST"
PLAN & PROFILE
STA 3480+00 TO STA 3521+23

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IN CHARGE J. HAWLEY
DATE 11-01-2011



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A HIGH-SPEED RAIL JOINT VENTURE

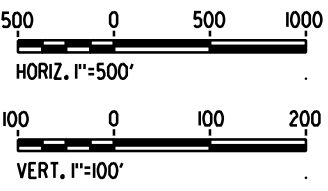
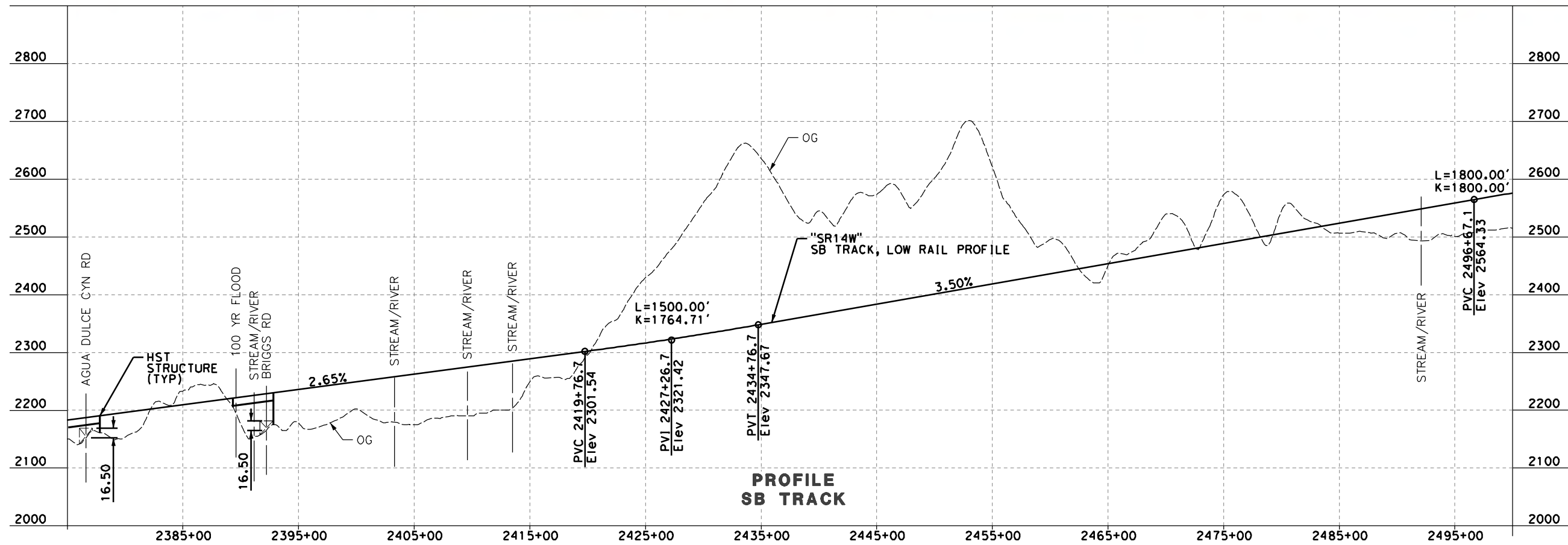
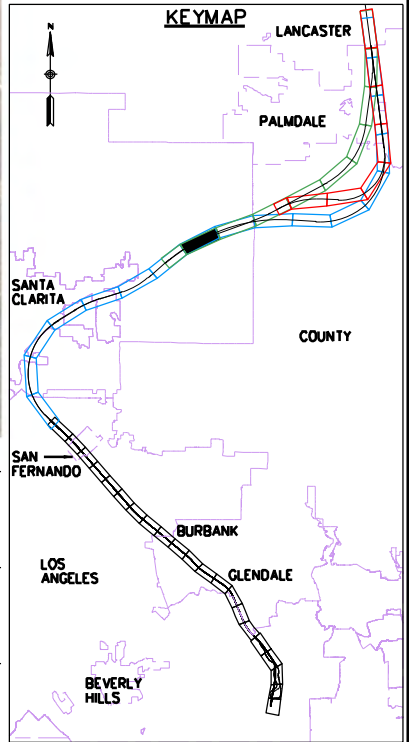
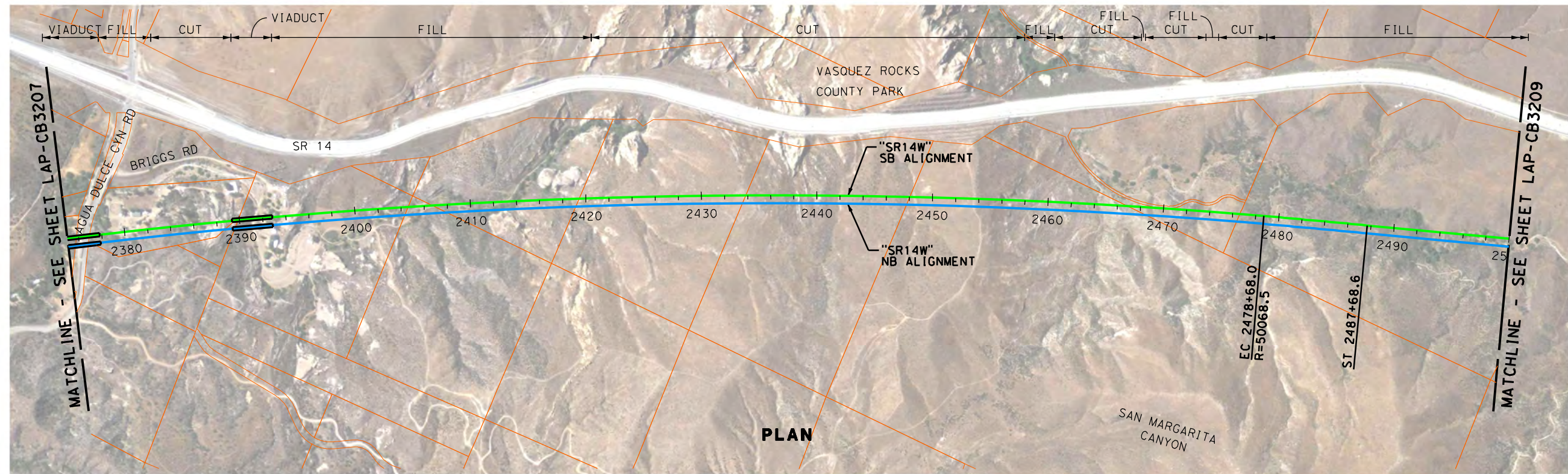


CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

CALIFORNIA HIGH-SPEED TRAIN PROJECT
PALMDALE TO LOS ANGELES
ALTERNATIVE ANALYSIS
SYLMAR TO PALMDALE - "SR14 WEST"
PLAN & PROFILE
STA 2230+00 TO STA 2375+00

CONTRACT NO.
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IN CHARGE J. HAWLEY
DATE 11-01-2011



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A HIGH-SPEED RAIL JOINT VENTURE

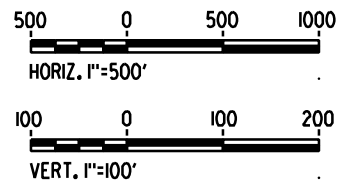
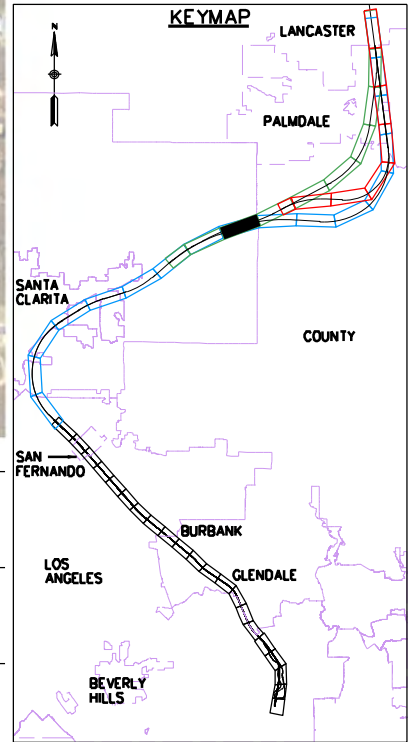
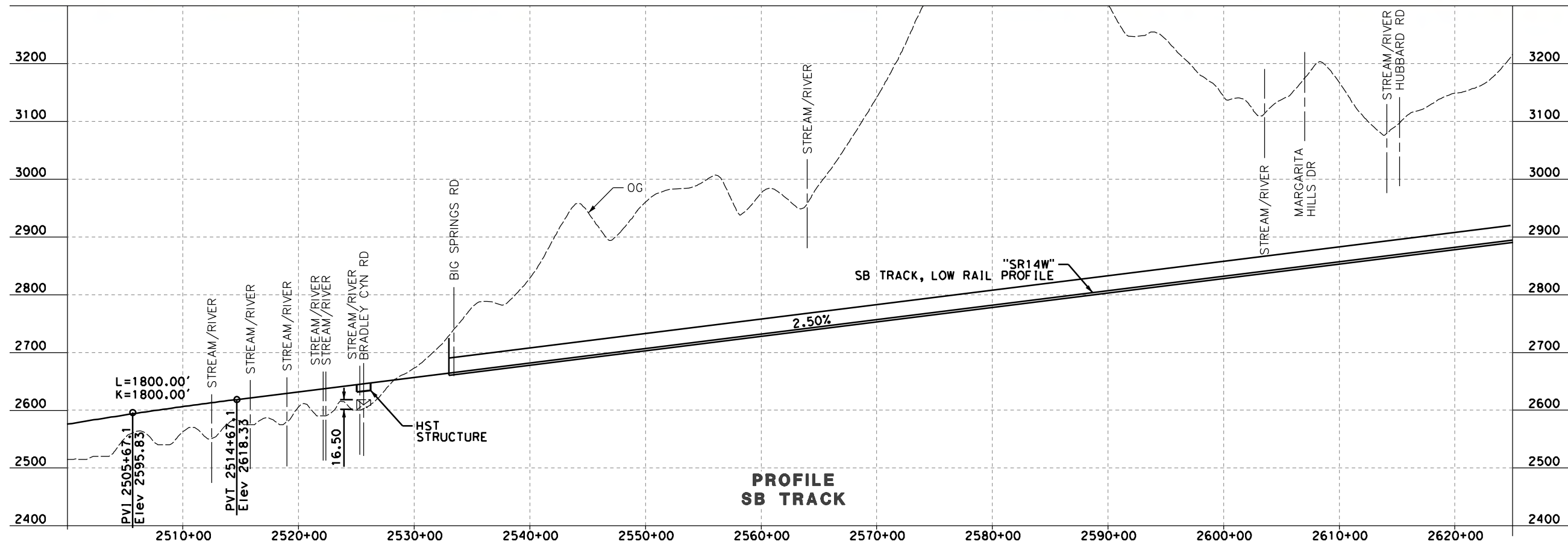
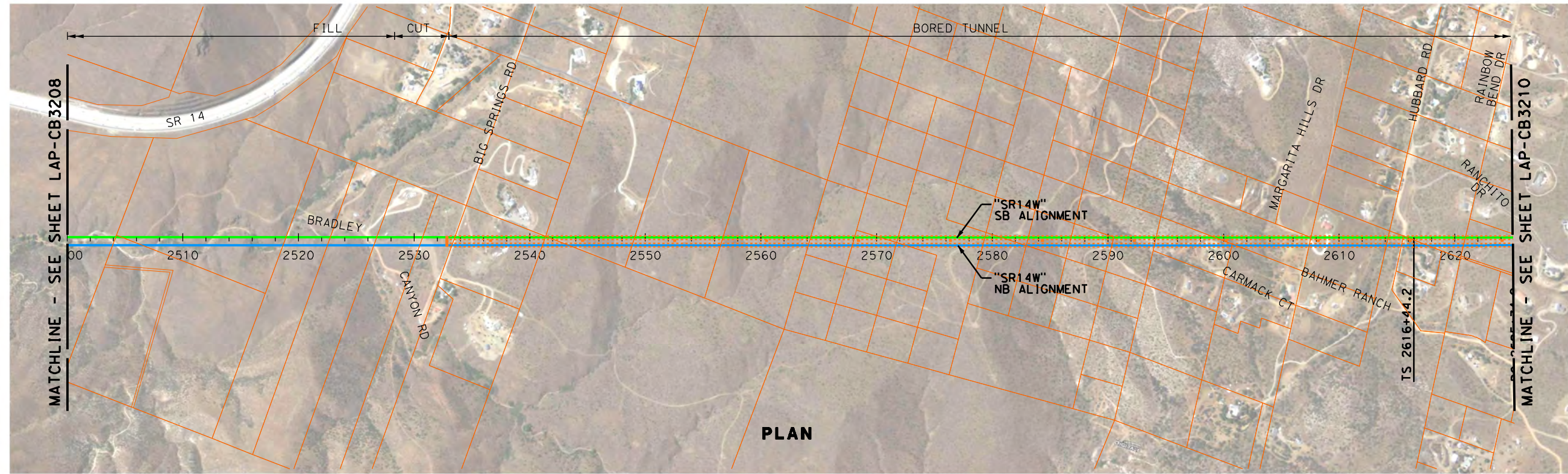


CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

CALIFORNIA HIGH-SPEED TRAIN PROJECT
PALMDALE TO LOS ANGELES
ALTERNATIVE ANALYSIS
SYLMAR TO PALMDALE - "SR14 WEST"
PLAN & PROFILE
STA 2375+00 TO STA 2500+00

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IN CHARGE J. HAWLEY
DATE 11-01-2011



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A HIGH-SPEED RAIL JOINT VENTURE

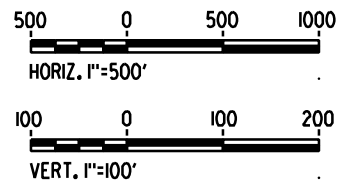
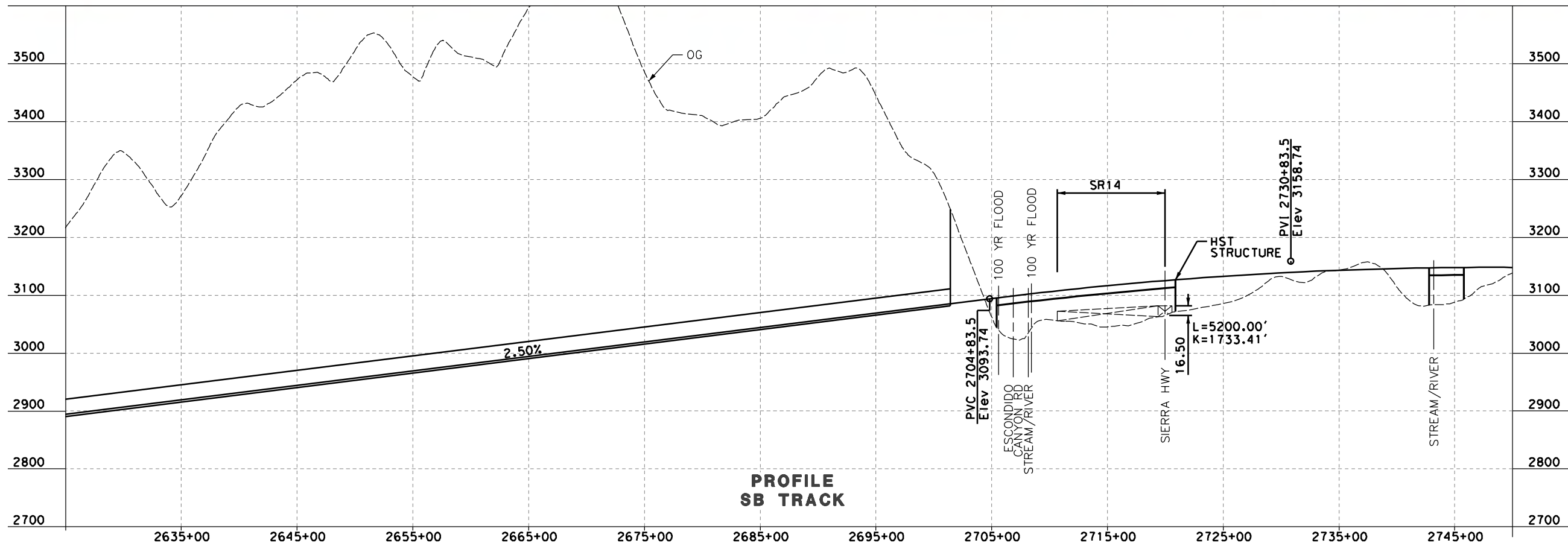
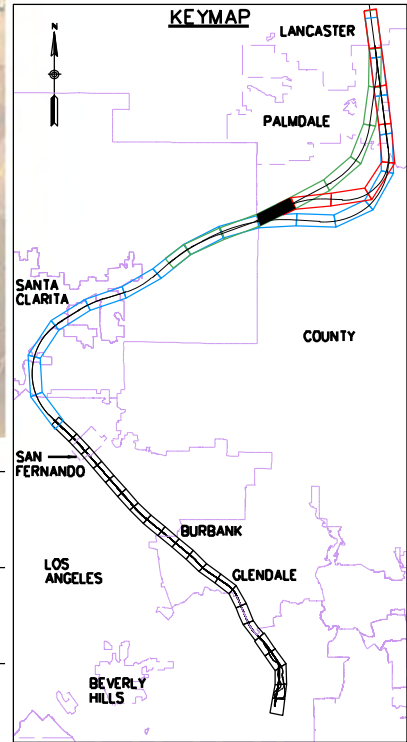
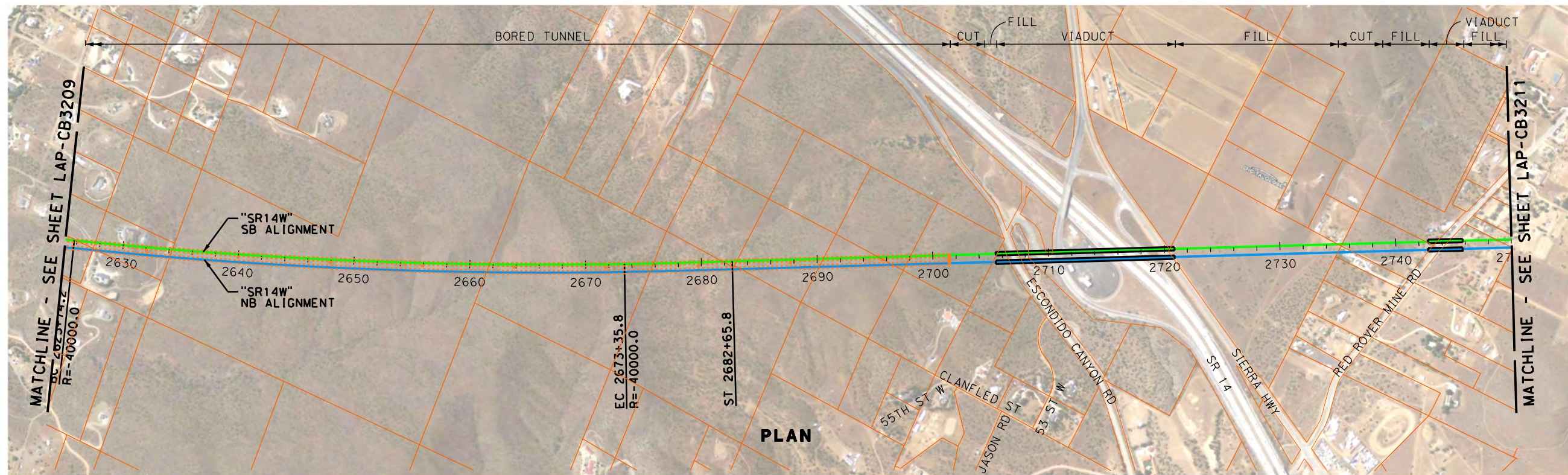


CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

CALIFORNIA HIGH-SPEED TRAIN PROJECT
PALMDALE TO LOS ANGELES
ALTERNATIVE ANALYSIS
SYLMAR TO PALMDALE - "SR14 WEST"
PLAN & PROFILE
STA 2500+00 TO STA 2625+00

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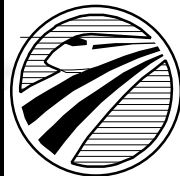


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DATE 11-01-2011



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A HIGH-SPEED RAIL JOINT VENTURE



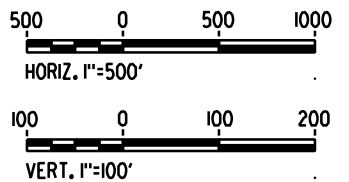
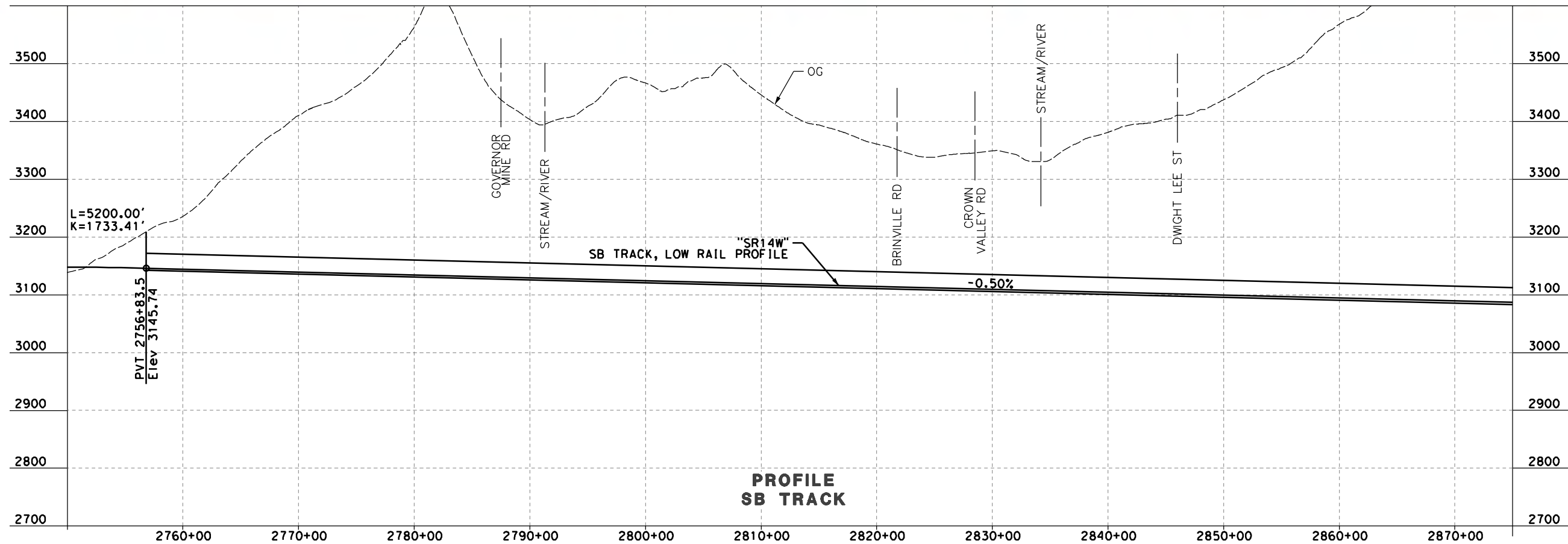
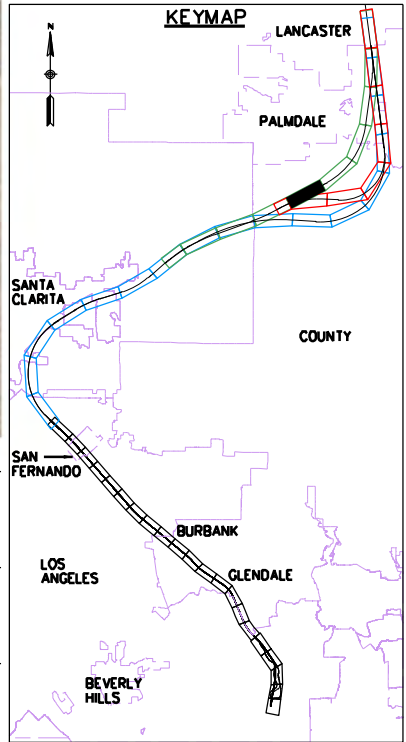
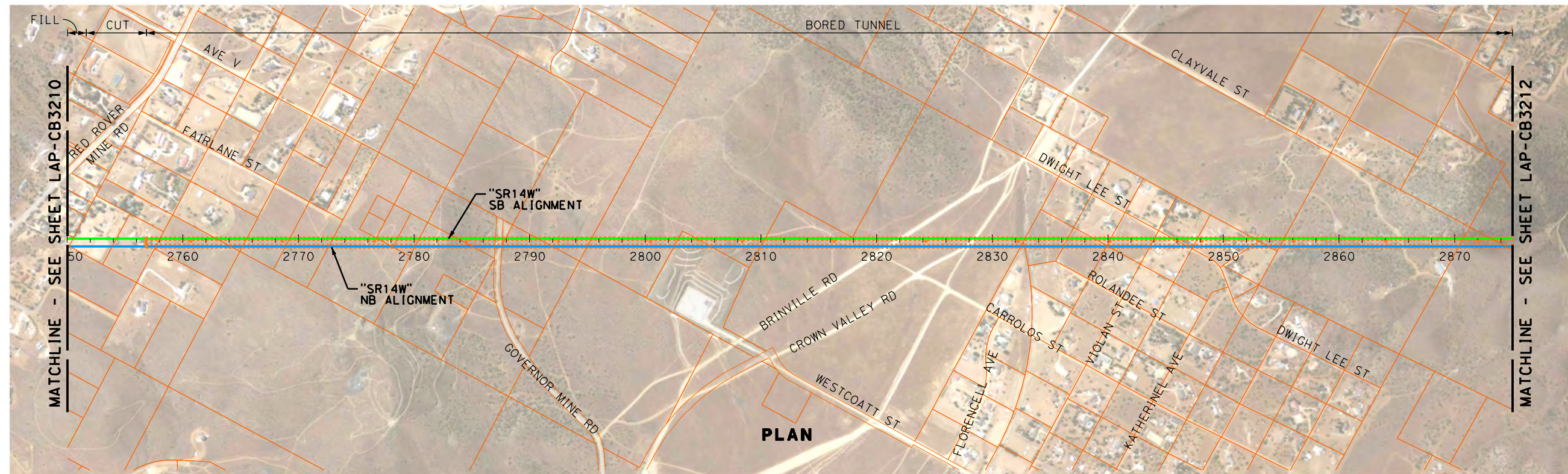
CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

CALIFORNIA HIGH-SPEED TRAIN PROJECT PALMDALE TO LOS ANGELES

ALTERNATIVE ANALYSIS
SYLMAR TO PALMDALE - "SR14 WEST"
PLAN & PROFILE
STA 2625+00 TO STA 2750+00

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IN CHARGE J. HAWLEY
DATE 11-01-2011



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A HIGH-SPEED RAIL JOINT VENTURE

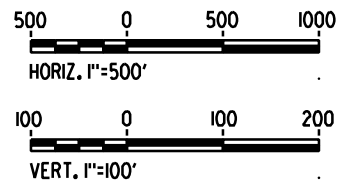
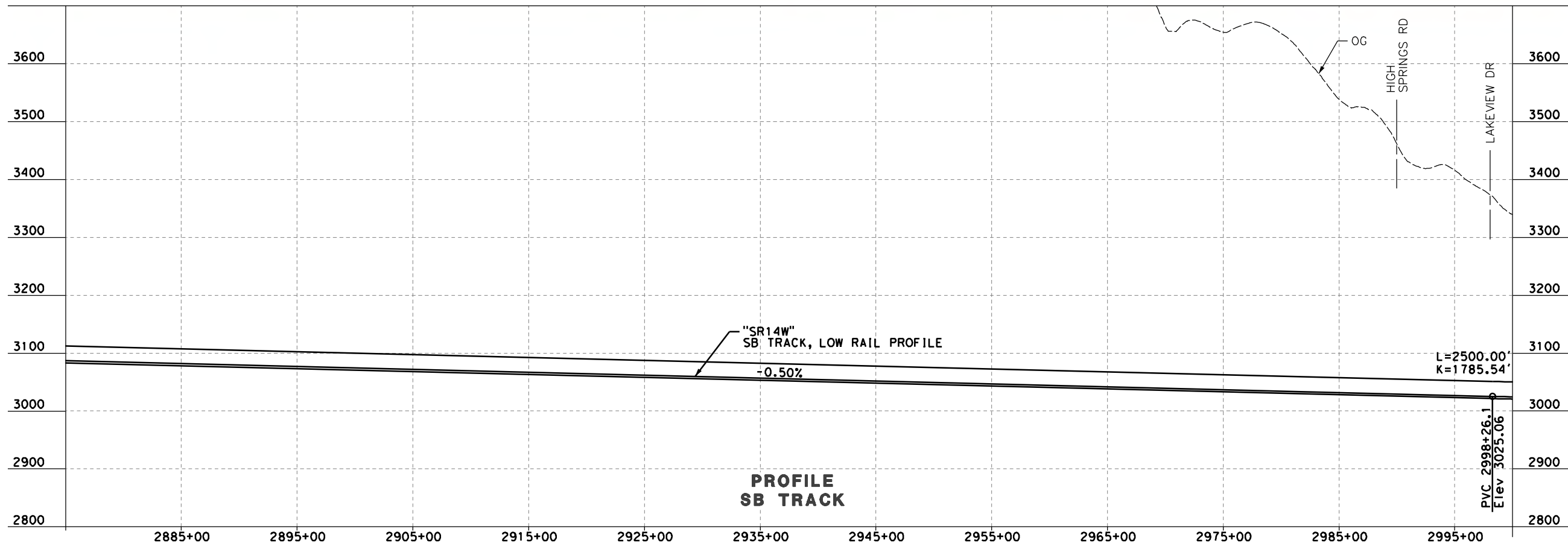
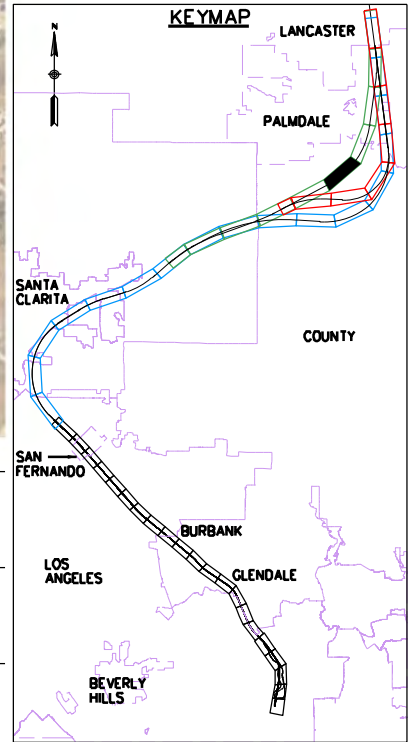
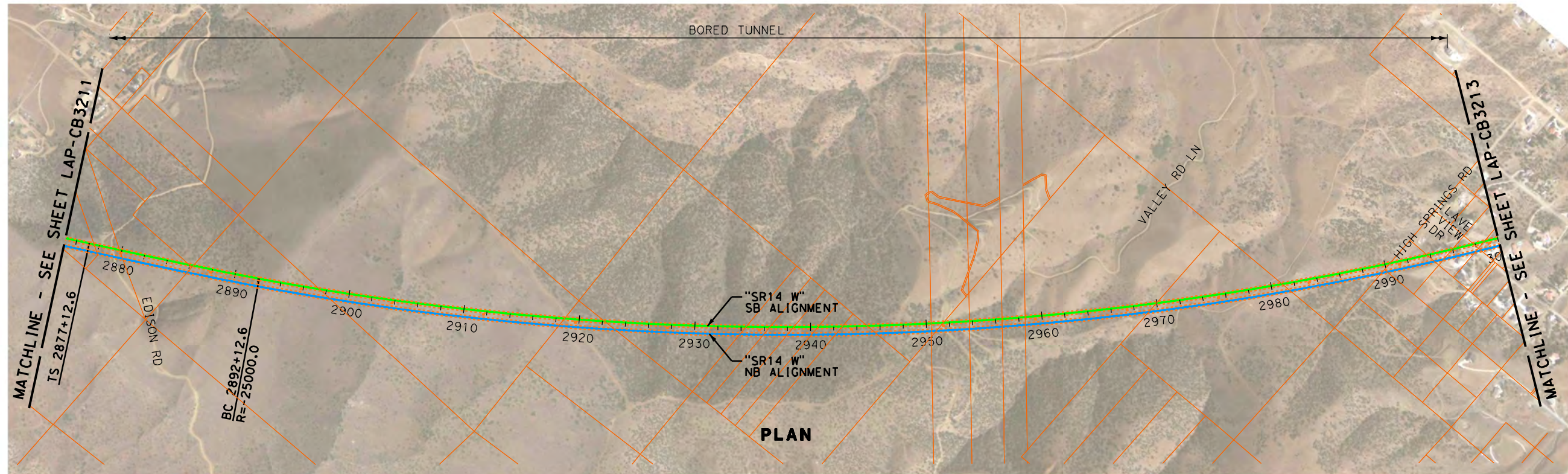


CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

CALIFORNIA HIGH-SPEED TRAIN PROJECT
PALMDALE TO LOS ANGELES
ALTERNATIVE ANALYSIS
SYLMAR TO PALMDALE - "SR14 WEST"
PLAN & PROFILE
STA 2750+00 TO STA 2875+00

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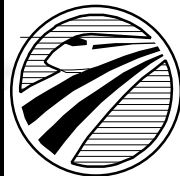


REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY C. LEE
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CHECKED BY L. TRUJILLO
IN CHARGE J. HAWLEY
DATE 11-01-2011



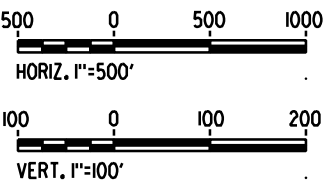
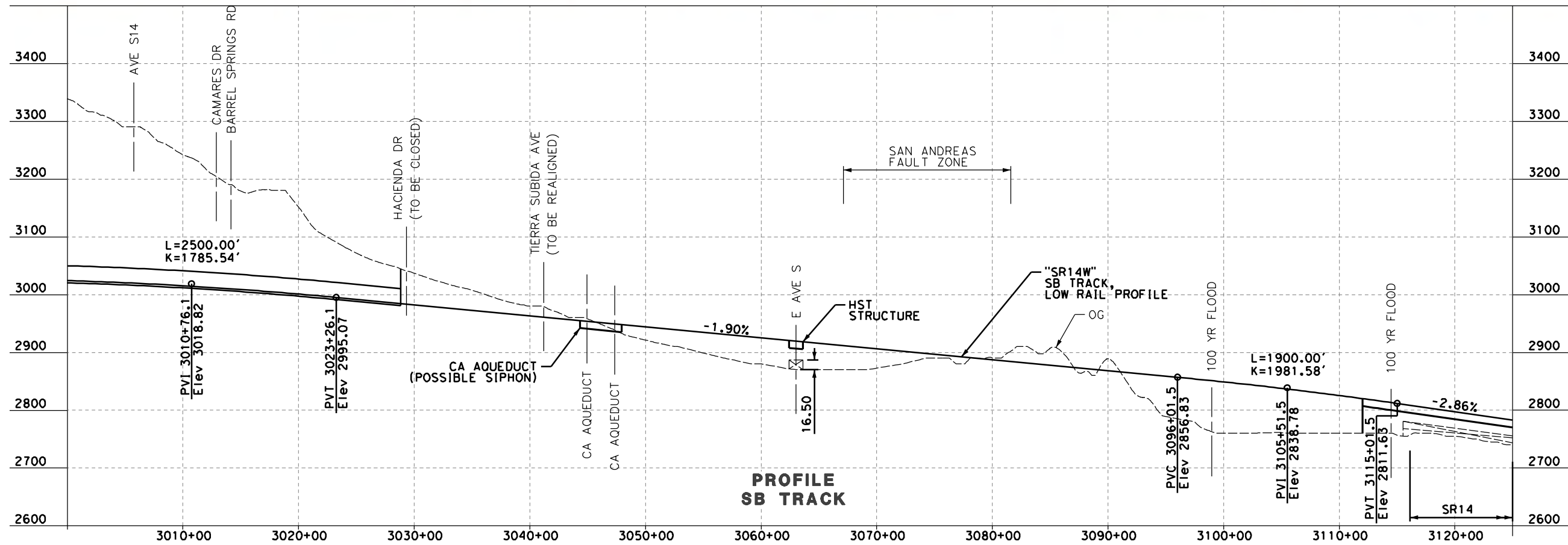
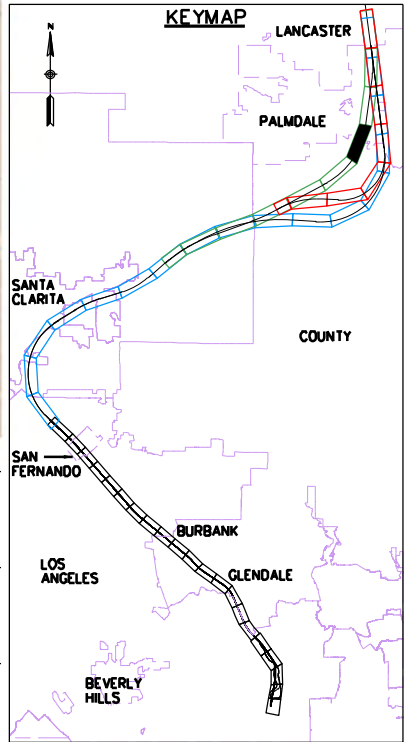
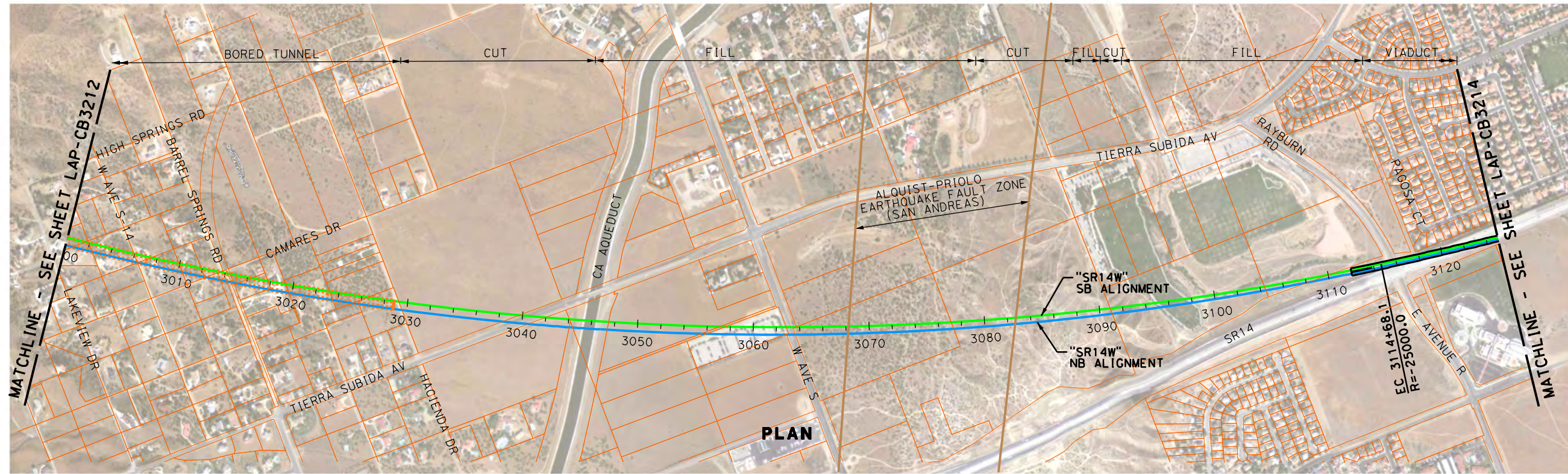
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A HIGH-SPEED RAIL JOINT VENTURE



CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

CALIFORNIA HIGH-SPEED TRAIN PROJECT
PALMDALE TO LOS ANGELES
ALTERNATIVE ANALYSIS
SYLMAR TO PALMDALE - "SR14 WEST"
PLANT & PROFILE
STA 2875+00 TO STA 3000+00

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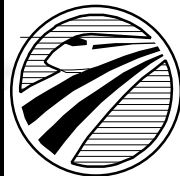
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IN CHARGE J. HAWLEY
DATE 11-01-2011



Hatch Mott MacDonald, URS, & Arup
A HIGH-SPEED RAIL JOINT VENTURE

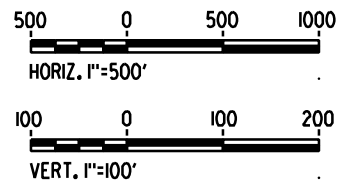
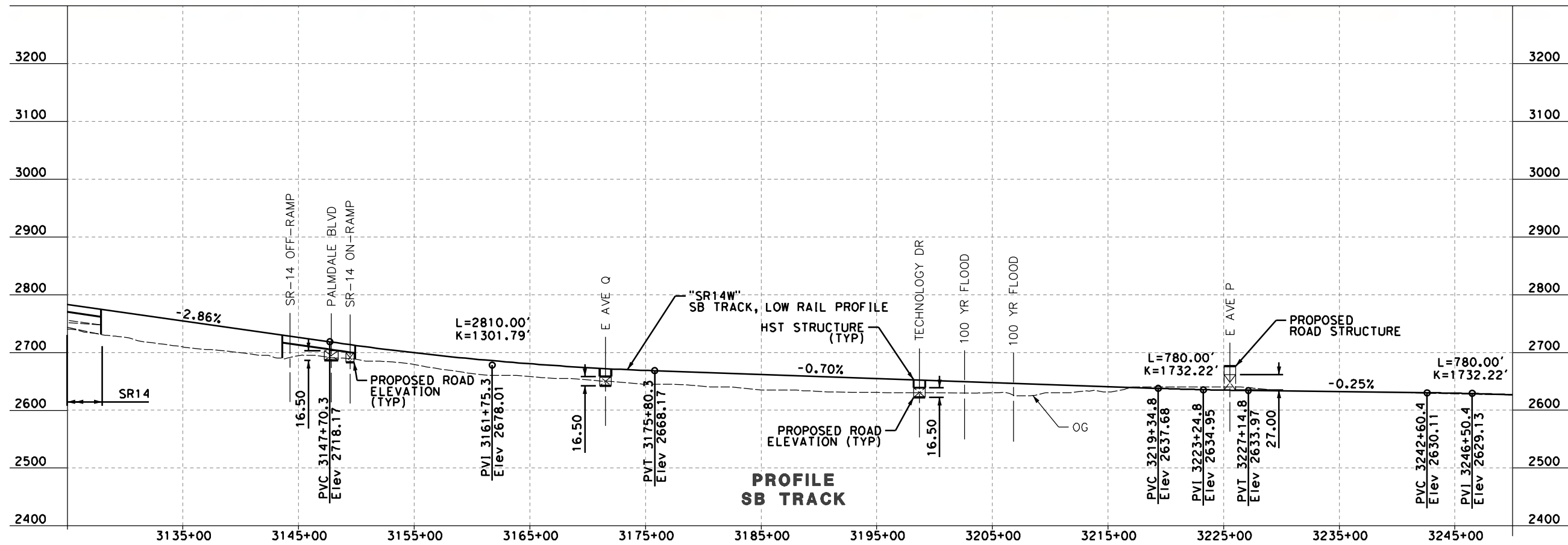
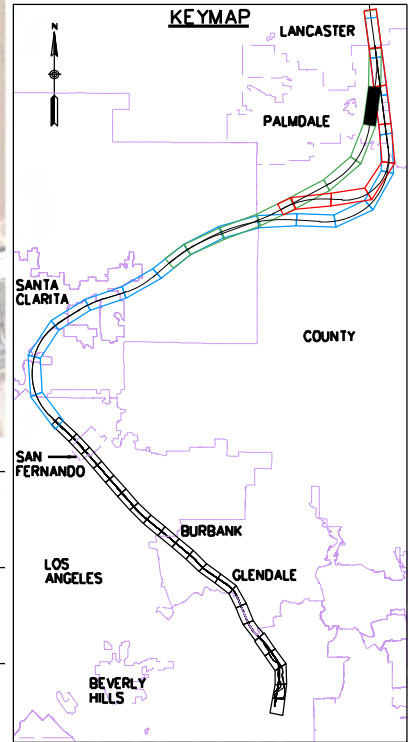
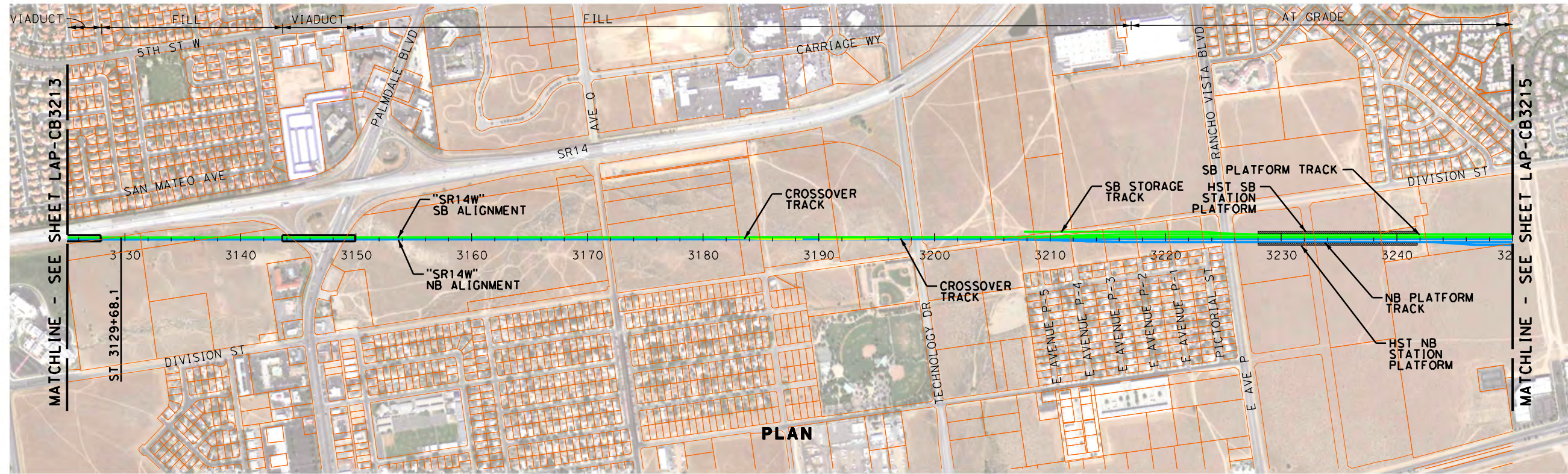


CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

CALIFORNIA HIGH-SPEED TRAIN PROJECT
PALMDALE TO LOS ANGELES
ALTERNATIVE ANALYSIS
SYLMAR TO PALMDALE - "SR14 WEST"
PLAN & PROFILE
STA 3000+00 TO STA 3125+00

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DATE 11-01-2011



Hatch Mott MacDonald, URS, & Arup
A HIGH-SPEED RAIL JOINT VENTURE

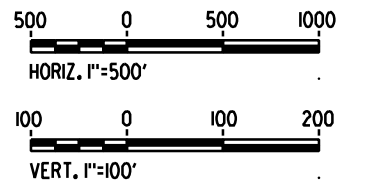
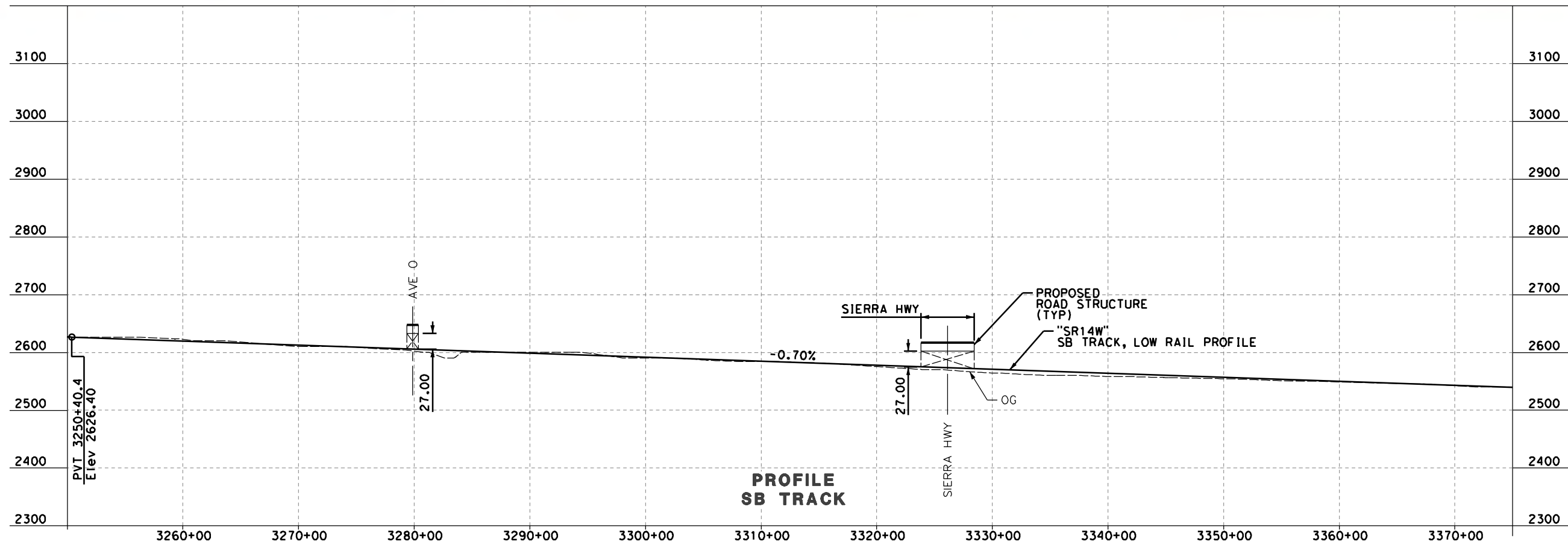
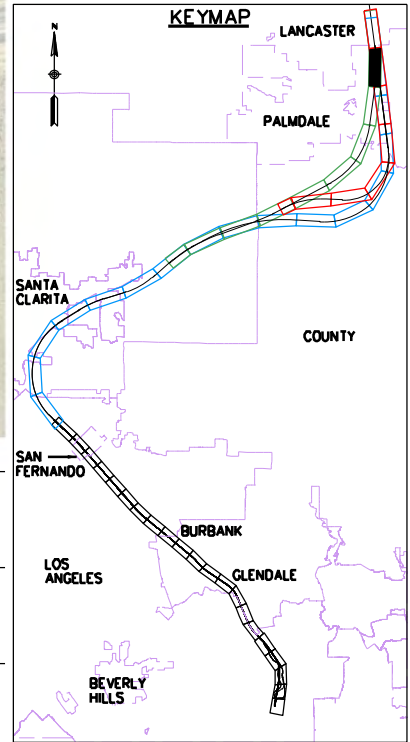
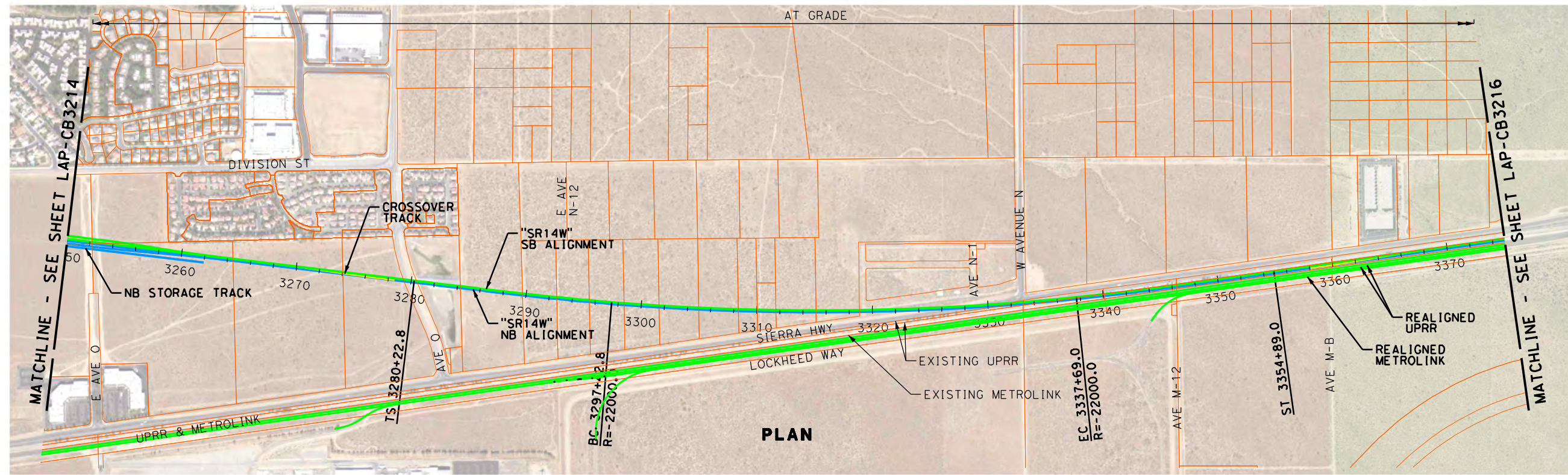


CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

CALIFORNIA HIGH-SPEED TRAIN PROJECT
PALMDALE TO LOS ANGELES
ALTERNATIVE ANALYSIS
SYLMAR TO PALMDALE - "SR14 WEST"
PLAN & PROFILE
STA 3125+00 TO STA 3250+00

CONTRACT NO.
DRAWING NO. LAP-CB3214
SCALE AS SHOWN
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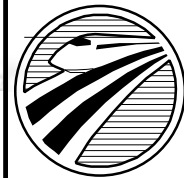


REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY C. LEE
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CHECKED BY L. TRUJILLO
IN CHARGE J. HAWLEY
DATE 11-01-2011



Hatch Mott MacDonald, URS, & Arup
A HIGH-SPEED RAIL JOINT VENTURE

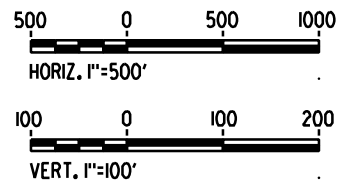
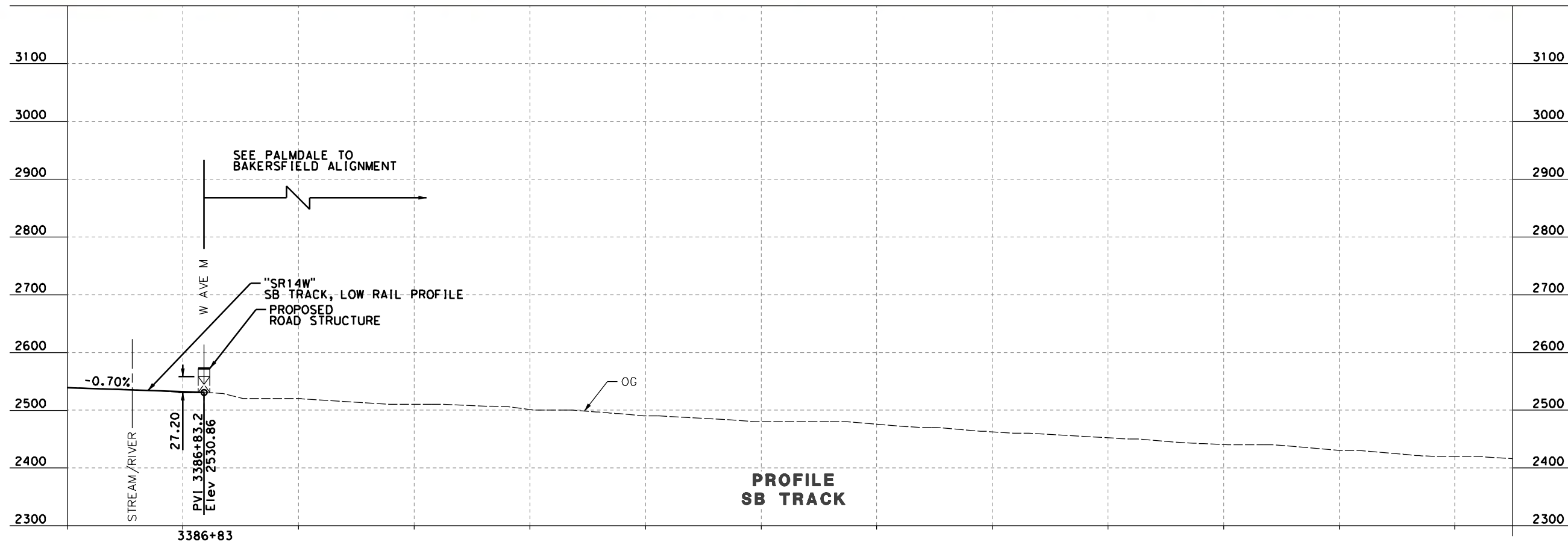
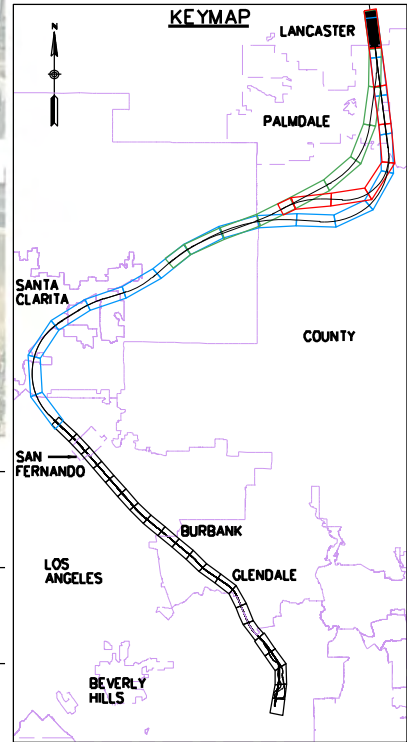


CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

CALIFORNIA HIGH-SPEED TRAIN PROJECT
PALMDALE TO LOS ANGELES
ALTERNATIVE ANALYSIS
SYLMAR TO PALMDALE - "SR14 WEST"
PLAN & PROFILE
STA 3250+00 TO STA 3375+00

CONTRACT NO.
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IN CHARGE J. HAWLEY
DATE 11-01-2011



Hatch Mott MacDonald, URS, & Arup
A HIGH-SPEED RAIL JOINT VENTURE

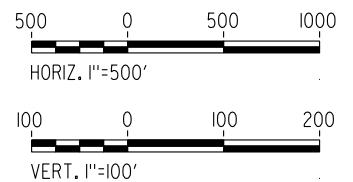
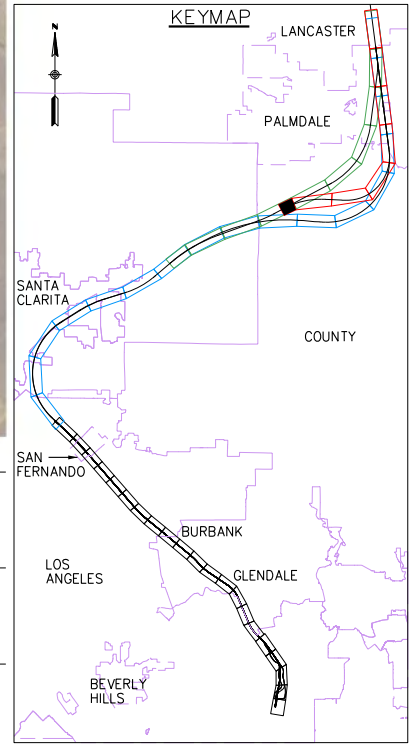
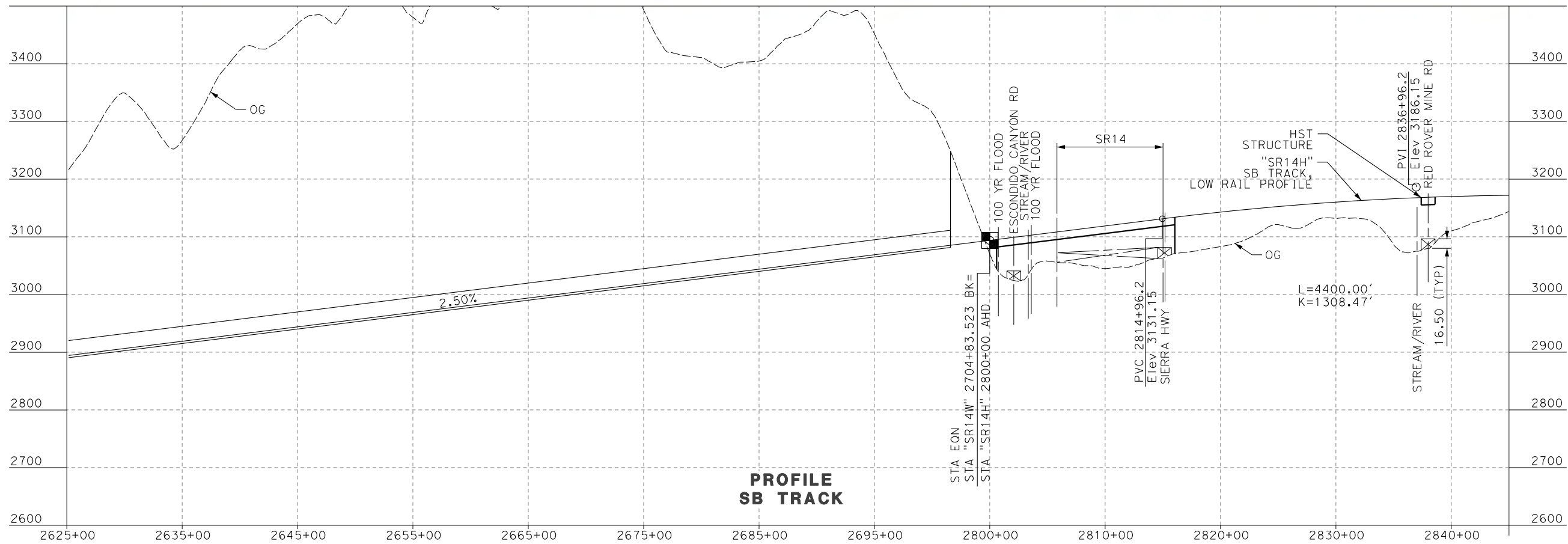
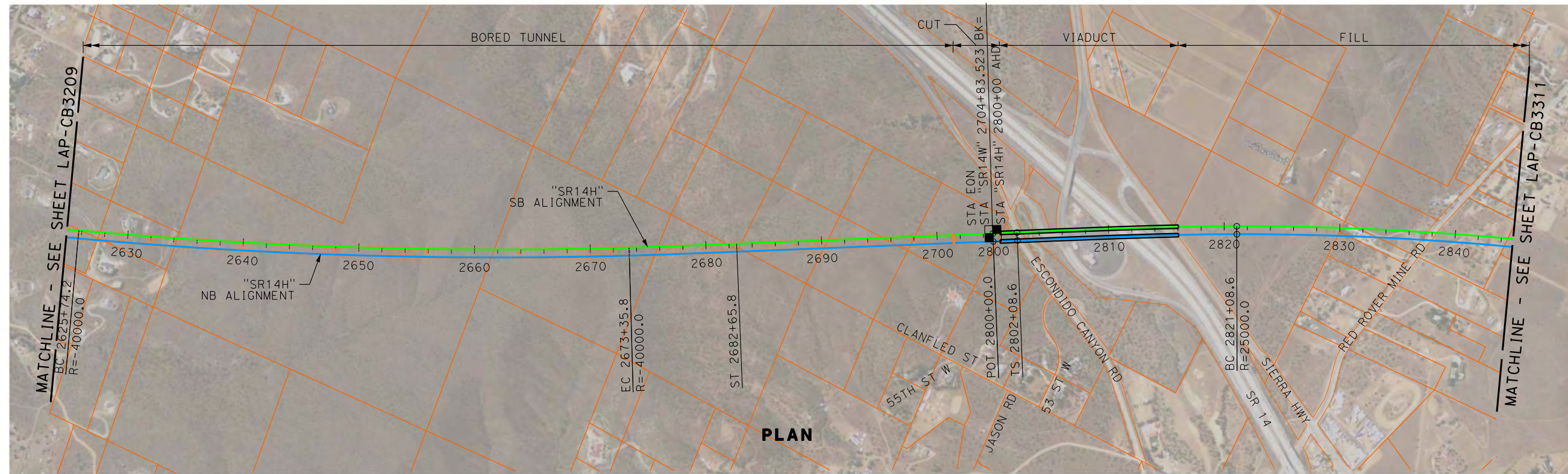


CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

CALIFORNIA HIGH-SPEED TRAIN PROJECT
PALMDALE TO LOS ANGELES
ALTERNATIVE ANALYSIS
SYLMAR TO PALMDALE - "SR14 WEST"
PLAN & PROFILE
STA 3375+00 TO STA 3386+83

CONTRACT NO.
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IN CHARGE J. HAWLEY
DATE 12-07-2011



Hatch Mott MacDonald, URS, & Arup
A HIGH-SPEED RAIL JOINT VENTURE

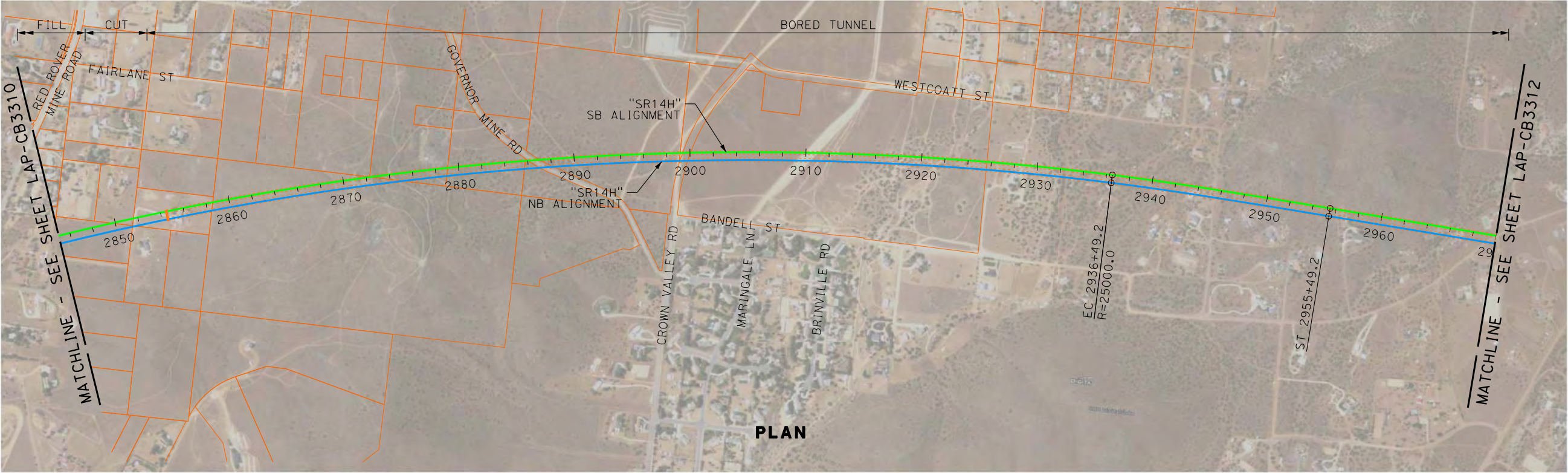


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HIGH-SPEED RAIL AUTHORITY

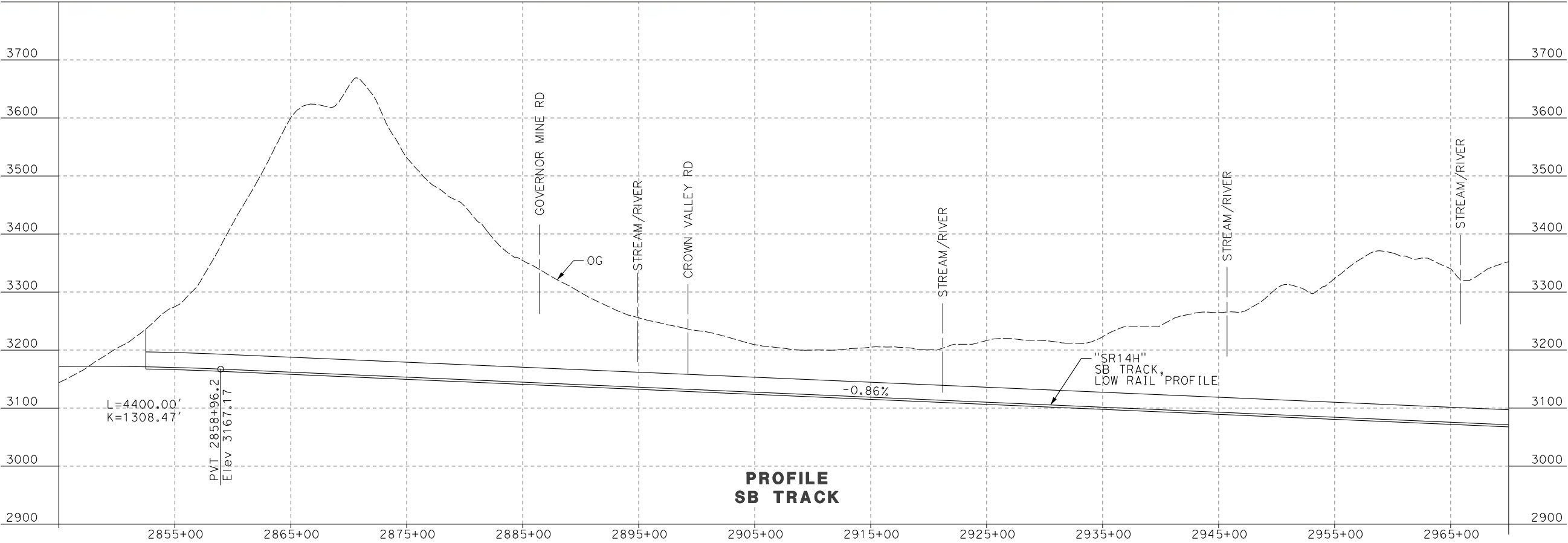
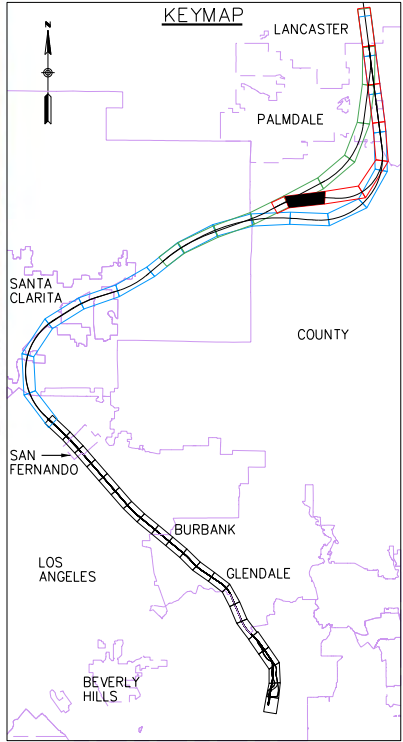
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PALMDALE TO LOS ANGELES**

ALTERNATIVE ANALYSIS
SYLMAR TO PALMDALE - "SR14 HYBRID"
PLAN & PROFILE
STA 2625+00 TO STA 2845+00

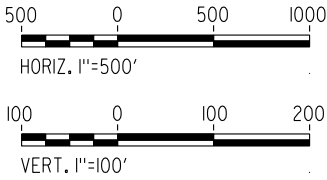
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PLAN



PROFILE
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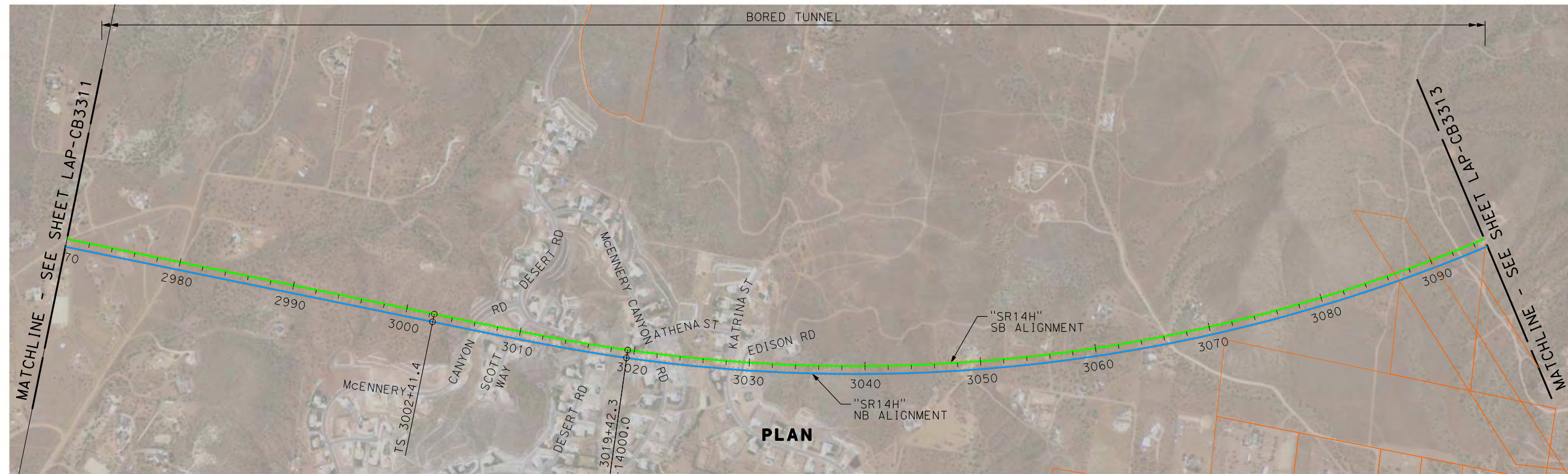
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DATE 12-07-2011



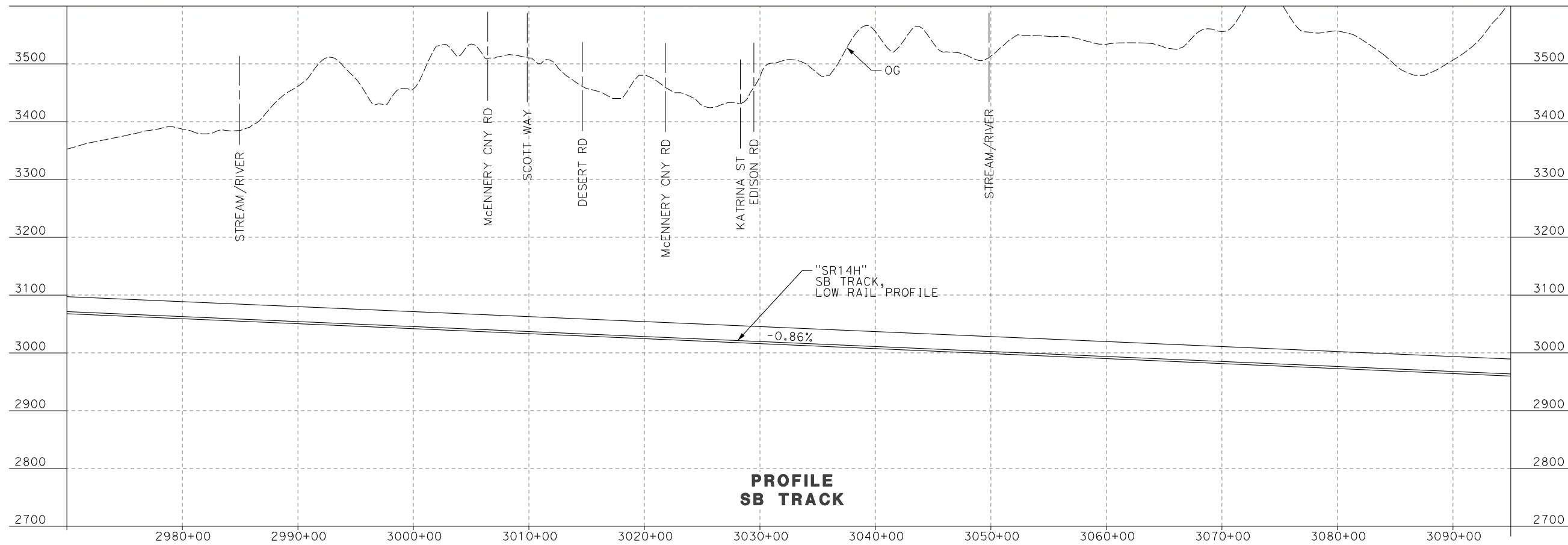
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PALMDALE TO LOS ANGELES**
ALTERNATIVE ANALYSIS
SYLMAR TO PALMDALE - "SR14 HYBRID"
PLAN & PROFILE
STA 2845+00 TO STA 2970+00

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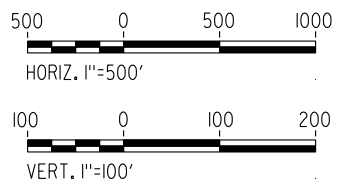
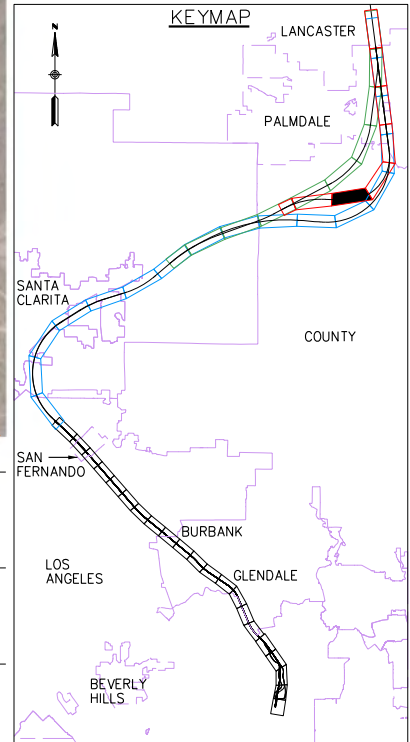
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PLAN



PROFILE
SB TRACK



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DATE 12-07-2011



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A HIGH-SPEED RAIL JOINT VENTURE



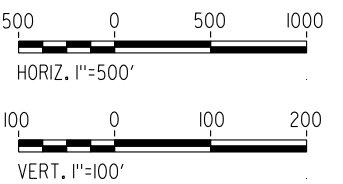
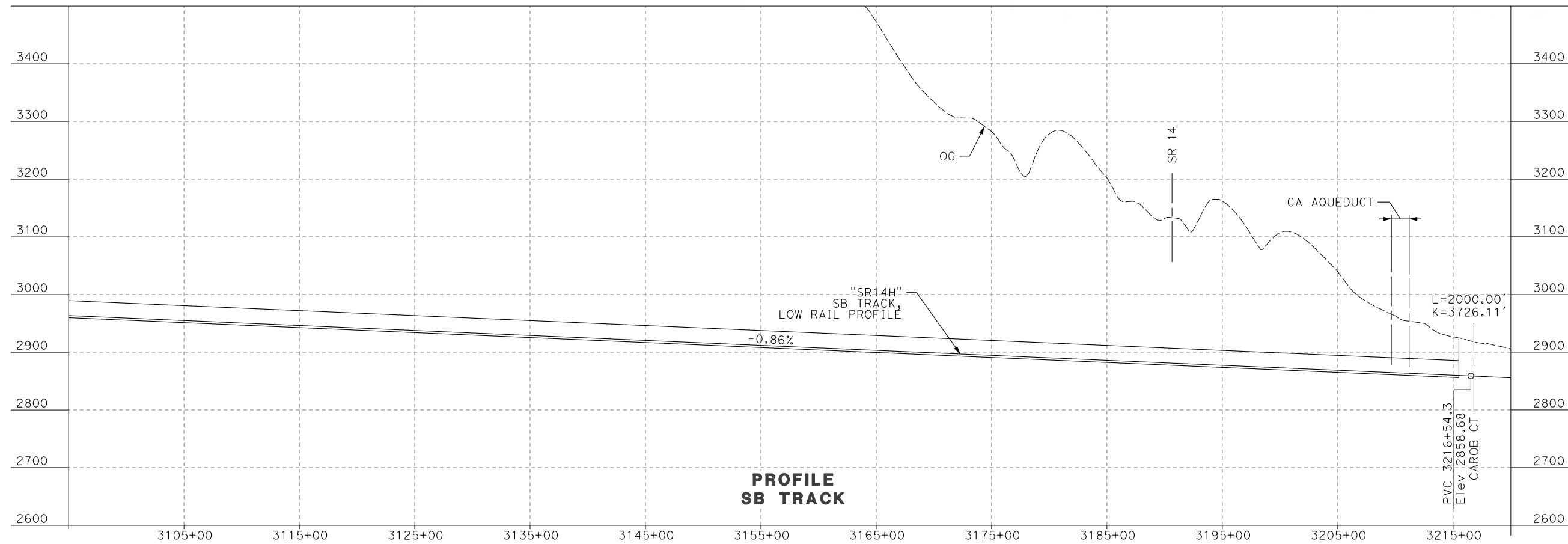
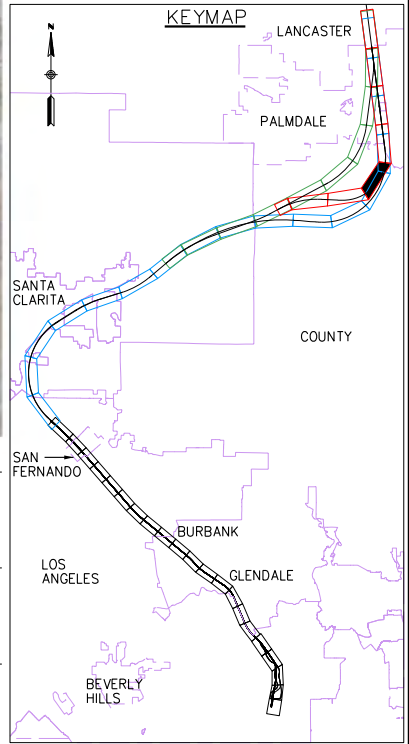
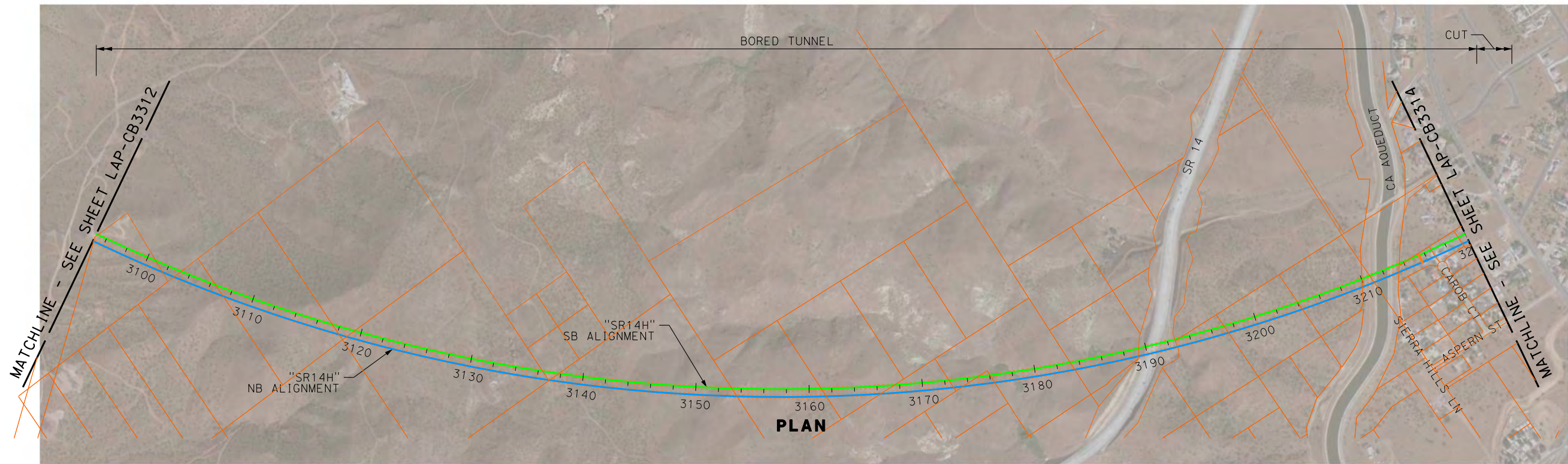
CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

CALIFORNIA HIGH-SPEED TRAIN PROJECT
PALMDALE TO LOS ANGELES

ALTERNATIVE ANALYSIS
SYLMAR TO PALMDALE - "SR14 HYBRID"
PLAN & PROFILE
STA 2970+00 TO STA 3095+00

CONTRACT NO.
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A HIGH-SPEED RAIL JOINT VENTURE



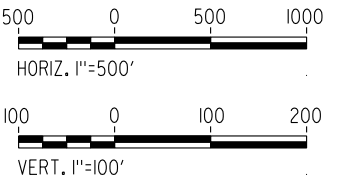
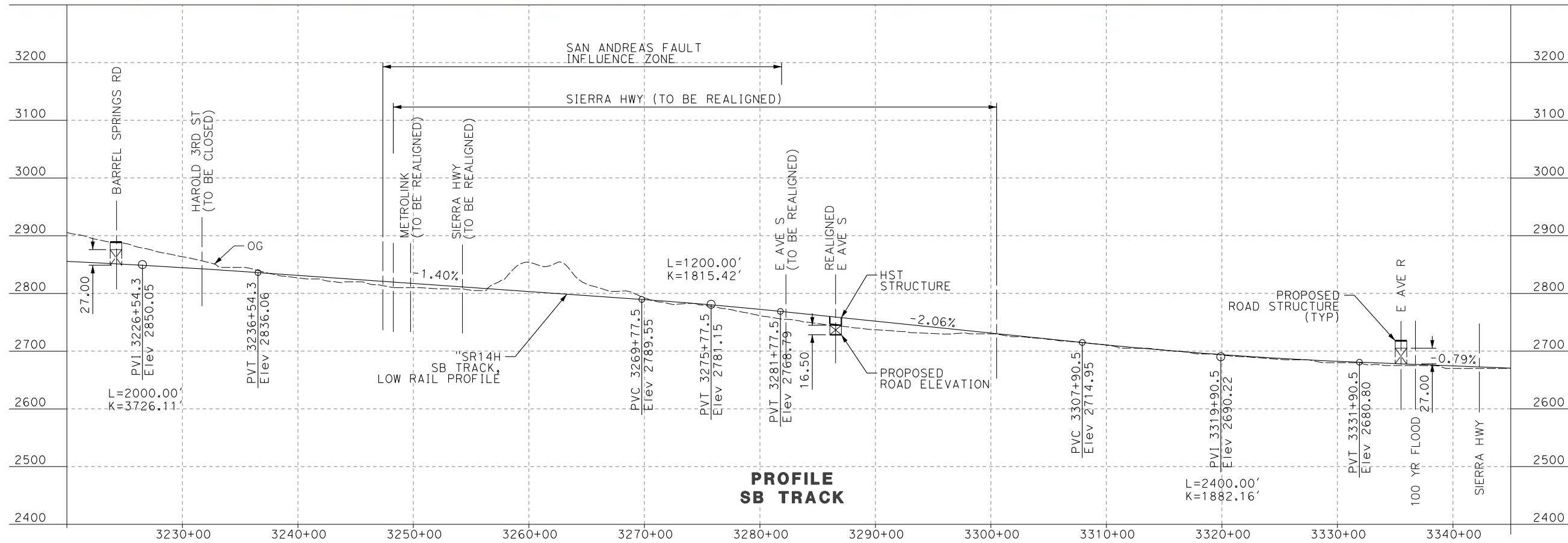
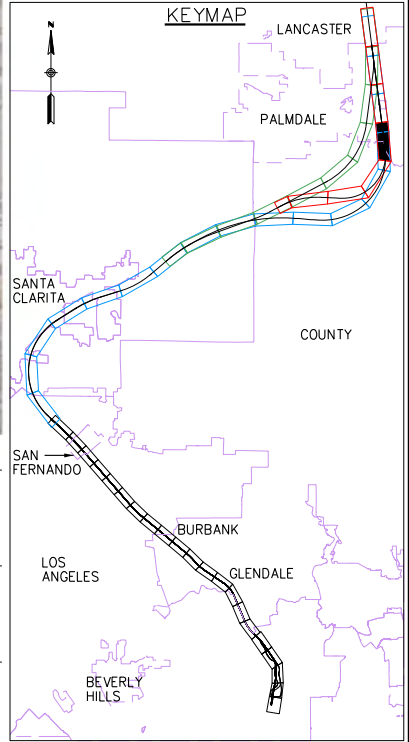
CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH-SPEED TRAIN PROJECT
PALMDALE TO LOS ANGELES**

ALTERNATIVE ANALYSIS
SYLMAR TO PALMDALE - "SR14 HYBRID"
PLAN & PROFILE
STA 3095+00 TO STA 3220+00

CONTRACT NO.
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DATE 12-07-2011

**15% IN-PROGRESS
SUBMITTAL
FOR INTERNAL
USE ONLY**

**NOT FOR
CONSTRUCTION**

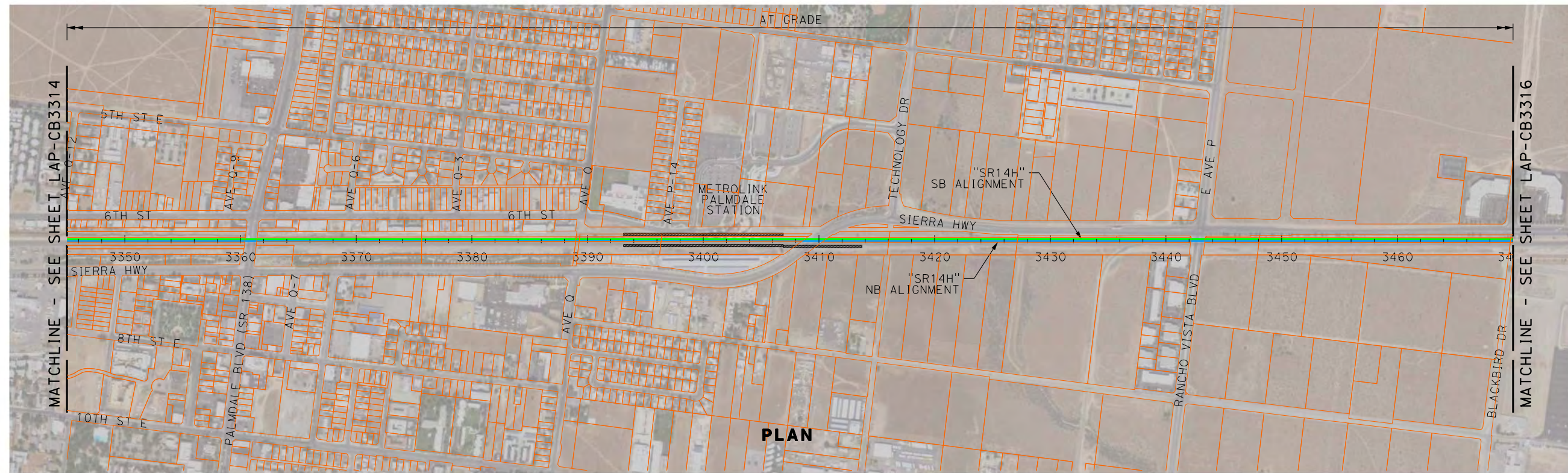


**CALIFORNIA HIGH-SPEED TRAIN PROJECT
PALMDALE TO LOS ANGELES**

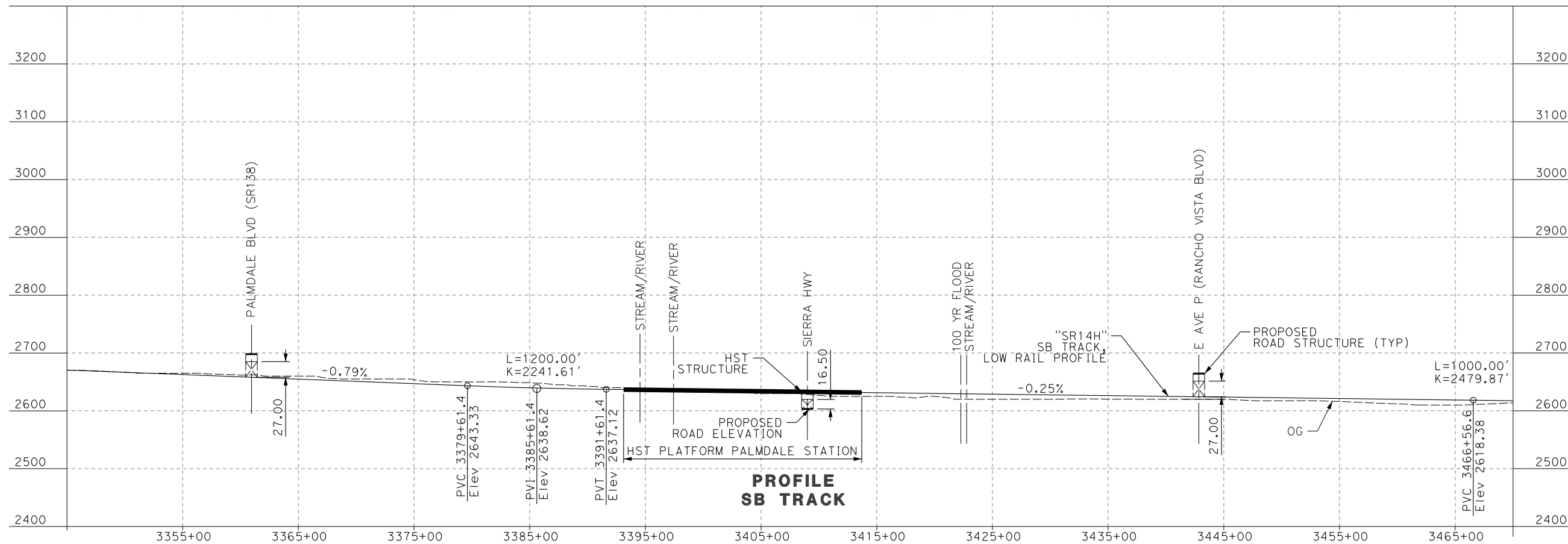
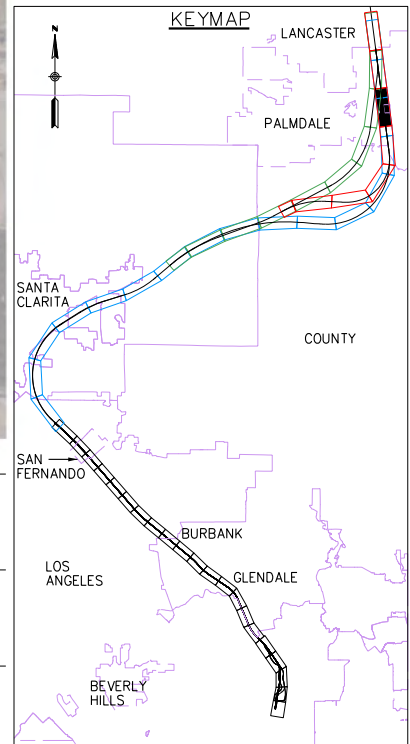
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PLAN AND PROFILE
STA 3220+00 TO STA 3345+00

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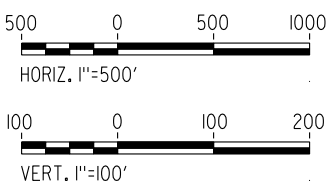
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PLAN



PROFILE
SB TRACK



REV	DATE	BY	CHK	APP	DESCRIPTION

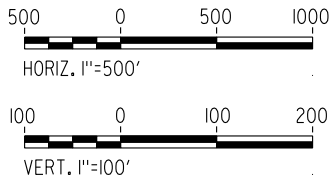
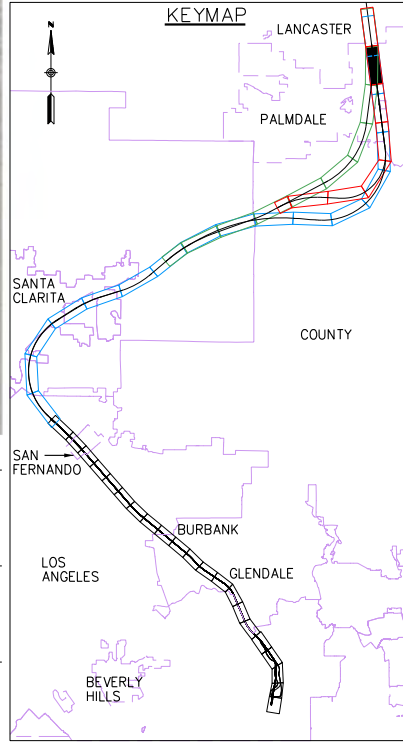
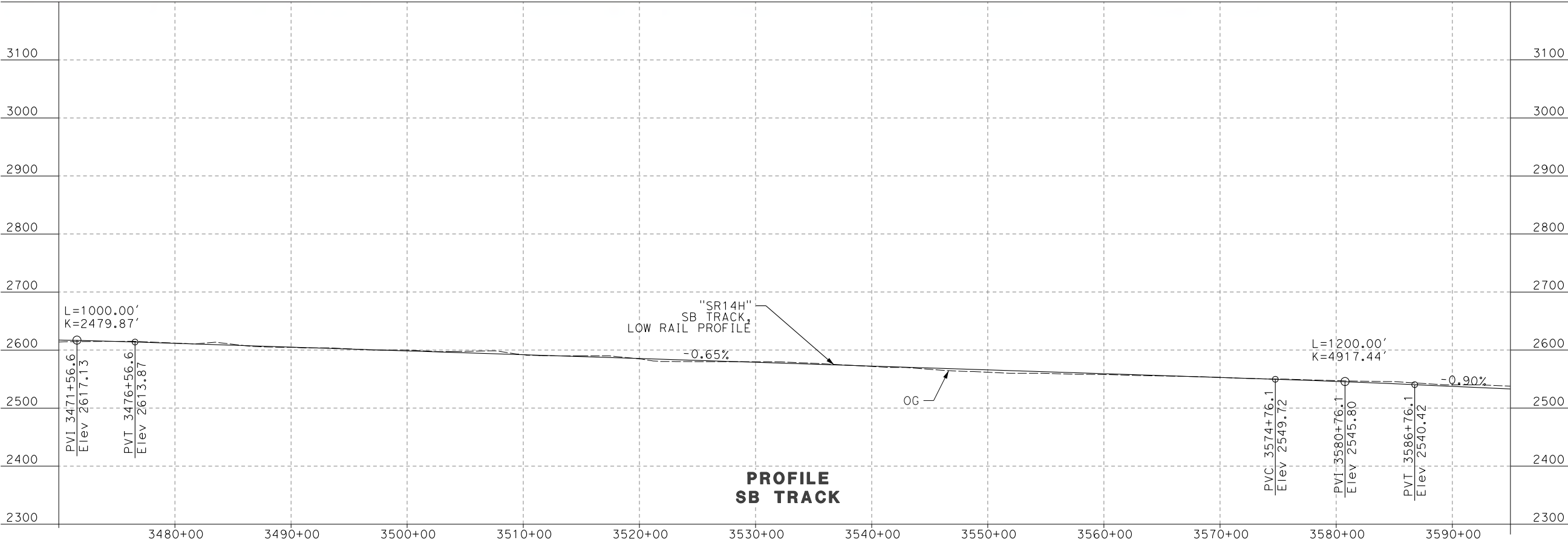
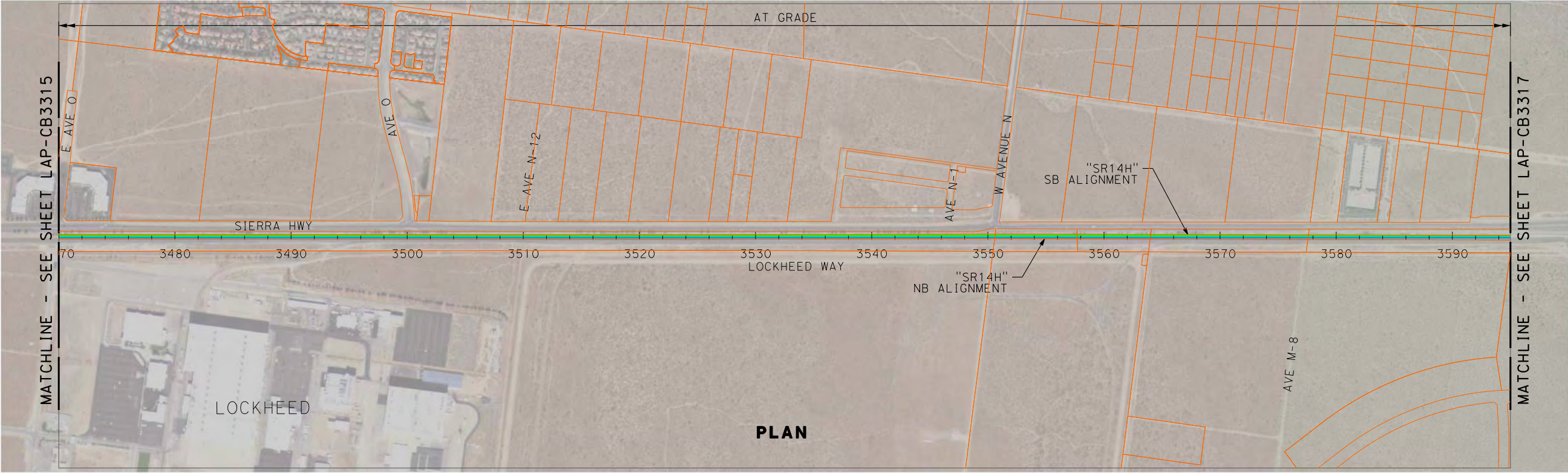
DESIGNED BY J. ELLIS
DRAWN BY F. CAMPOS
CHECKED BY L. TRUJILLO
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DATE 12-07-2011



**CALIFORNIA HIGH-SPEED TRAIN PROJECT
PALMDALE TO LOS ANGELES**
ALTERNATIVE ANALYSIS
SYLMAR TO PALMDALE - "SR14 HYBRID"
PLAN & PROFILE
STA 3345+00 TO STA 3470+00

CONTRACT NO.
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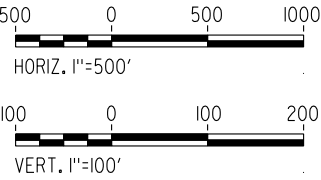
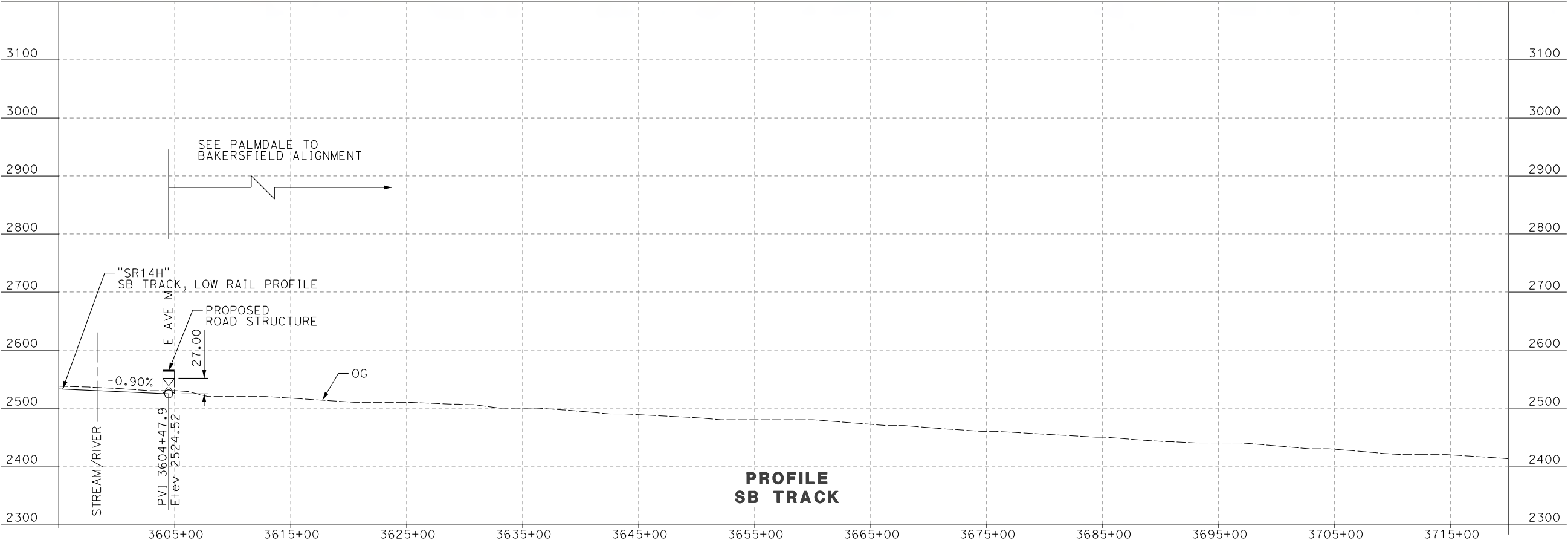
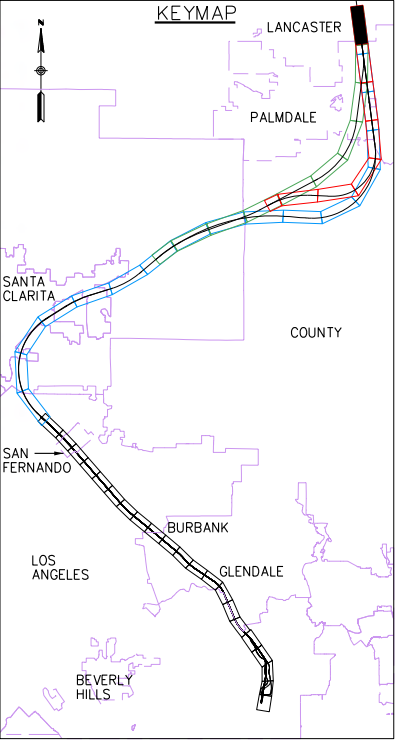


**CALIFORNIA HIGH-SPEED TRAIN PROJECT
PALMDALE TO LOS ANGELES**

ALTERNATIVE ANALYSIS
SYLMAR TO PALMDALE - "SR14 HYBRID"
PLAN & PROFILE
STA 3470+00 TO STA 3595+00

CONTRACT NO.
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A HIGH-SPEED RAIL JOINT VENTURE



CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

CALIFORNIA HIGH-SPEED TRAIN PROJECT
PALMDALE TO LOS ANGELES

ALTERNATIVE ANALYSIS
SYLMAR TO PALMDALE - "SR14 HYBRID"
PLAN & PROFILE
STA 3595+00 TO STA 3604+48

CONTRACT NO.
DRAWING NO. LAP-CB3317
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